

CONVENTION ISSUE

INFORMATION LETTER

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NATIONAL CANNERS ASSOCIATION

For Members
Only

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Proceedings of the 53rd Annual Convention

NEWS SUMMARY

THIS CONVENTION ISSUE reports N.C.A.'s 53rd Annual Convention, and reproduces texts of addresses and technical papers that were made available for publication:

N.C.A. MEMBERS convened at two important general sessions:

ANNUAL MEETING, with election of Officers and Directors, Convention Resolutions, and an address by Roger M. Blough pp. 13-21

FOOD REGULATION SESSION, a special meeting on that problem, at which the membership adopted a resolution dealing with the canning industry's relationship with FDA pp. 22-27

THE BOARD OF DIRECTORS, at its meetings, also considered the N.C.A. relationship with FDA, and heard an address by Charles B. Shuman of the Farm Bureau . . . p. 10

THE SESQUICENTENNIAL of the birth of canning was observed in special ceremonies pp. 28-29

MARKETING of canned foods was the subject of two sessions:
Robinson-Patman Act . . . pp. 30-41
Merchandising pp. 41-47

PRODUCTION PROBLEMS were discussed at several Raw Products and Laboratory sessions:
Quality and quality control . pp. 48-60
Statistical quality control . pp. 61-64

1960 N.C.A. Officers

(left to right)

John C. Hemingway, Vice President;
Carlos Campbell, Executive Secretary;
and Milan D. Smith, President

The wholesomeness of canned foods and the canning industry's historic and continuing practice of controlling the quality and safety of its products were stressed in practically all of the 11 sessions of the 53rd Annual Convention of the National Canners Association, January 17-20, in Bal Harbour, Fla., as well as in the Association meetings of the Administrative Council, Board of Directors, and six of the Committee meetings that preceded the convention program.

This theme was expressed in a statement by President Norman Sorensen, to members of the Board, their guests from allied industries, and the 40-some food editors N.C.A. brought as its special guests to the Convention, when he said: "The canning industry can point with pride to its self-imposed standards of product-quality and quality-control, and indeed, to its historic leadership in helping initiate these laws. * * * The private industry of canning is more concerned with the health, welfare and safety of the consumer than any government agency could be. Industry's incentives are enlightened self-interest, a stronger motive than mere compliance with government edict, and less susceptible to violation."

What the industry does and will continue to do in this matter of ensuring the wholesomeness of its products was brought out in many ways, culminating in a special executive conclave of the
(please turn to page 11)



Board of Directors Acts on Association Business

The Board of Directors at its Convention meeting January 17 approved the policy and program of the N.C.A. staff in continuing cooperation with the Food and Drug Administration.

MORNING SESSION

The Board heard reports on the N.C.A. and canning industry relationships with FDA from H. Thomas Austern, Chief Counsel; Dr. C. H. Mahoney, Director of the Raw Products Research Bureau; and Dr. Ira I. Somers, Director of the Research Laboratories.

Also, the Board was informed that the Administrative Council, at its meeting the day before, had formally approved the policy of continuing close cooperation with the FDA. The Board did likewise.

LUNCHEON SESSION

The Board interrupted its executive meeting for a luncheon with the Ad-

ministrative Council, at which canners were hosts to food editors and other guests. The luncheon was the first formal event of the annual Food Editors Conference. Also, there were special ceremonies launching the observance by N.C.A. of 1960 as the sesquicentennial of the birth of canning (see pages 28-29).

Charles B. Shuman, president of the American Farm Bureau Federation, was guest speaker.

AFTERNOON SESSION

Following a report by Edward E. Burns, Chairman of the Finance Committee, the Board approved a budget of \$1,500,150 for 1960, and voted to continue the present rate of dues: one-half of a cent per case for seasonal products and one-fourth of a cent per case for nonseasonal products, with a minimum of \$75.

The Board also authorized continuation of four special Committees: Broker Relations Conference, Canner-

Grower Coordinating, Convention Program, and Procurement. These special committees are in addition to the standing committees, which have permanent status by reason of Board action in previous years.

The Board approved changes in the rules governing arbitration of disputes, as follows:

(1) In disputes involving merchandise in two geographic areas, the Arbitration Board first requested to act in a particular controversy will take evidence on the question of jurisdiction and settle that issue first before proceeding to substantive issues.

(2) In instances where all available arbitrators are disqualified because of a question as to their impartiality, additional arbitrators may be nominated immediately by the cooperating wholesaler and broker associations.

(3) Parties to a dispute may challenge one arbitrator without the need to show cause; thereafter, a party challenging the qualifications of an arbitrator must convince the chairman that grounds for disqualification exist. It also is provided that business dealings between an arbitrator and a party will not in themselves be grounds for disqualification.

The convention opened a year-long observance of 1960 as the 150th anniversary of the birth of canning and of the first metal can. The first event in the sesquicentennial observance was the joint luncheon meeting of the N.C.A. Board of Directors, Administrative Council, food editors, and invited guests, at which Norman Sorensen, N.C.A. president, exchanged anniversary salutes with Roger F. Hepenstal, C.M.I. president (at right).



Shuman of Farm Bureau Cites National Food Conference

Charles B. Shuman, president of the American Farm Bureau Federation, addressed the joint luncheon meeting of the N.C.A. Board of Directors, Administrative Council, food editors, and other invited guests on the theme "Farm to Table the Food Industry Works Together."

He stated that America is rich in food but too many of its citizens are short-changing themselves nutritionally.

"It is paradoxical that many Americans are 'going hungry,' nutritionally speaking, in a land of plenty," said Mr. Shuman.

"Our nation has the highest per capita income in the world. We have the largest food supply of any nation. Our cost of food in terms of purchasing power is the lowest in world history.

"Despite these facts, a large percent of our population have damaging inadequacies in their diets.

"Teenagers make up the group with the greatest nutritional problem. One study revealed that 40 percent of the girls and 30 percent of the boys were not getting well balanced diets."

This problem, he said, involves such factors as inadequate breakfasts, breakfast-skipping, excessive use of high carbohydrate snacks and fat diets, and inadequate planning of family meals.

"The food industry—the people and organizations responsible for bringing



CHARLES B. SHUMAN

the nation's abundant food supply from farm to table—has become seriously concerned about the fact that public misunderstanding or lack of knowledge of food and nutrition is contributing substantially to the inadequate diets of many of our citizens," Mr. Shuman said.

It was this concern which prompted the formation of the National Food Conference committee nearly two years ago. Mr. Shuman is general chairman of the voluntary committee of representatives of more than 50 food and allied associations and organizations producing, processing, distributing and merchandising America's food supply.

The group's first project was sponsorship of a National Food Conference in Washington, D. C., on February 24, 1958. President Eisenhower was the keynote speaker. The national conference was followed by a series of "Food Comes First" programs and special events in 47 states.

This year's project is aimed at pointing up the nutritional deficiencies of teenagers and focusing the attention of America's youth on the importance of good nutrition and its role in helping youngsters to be physically and mentally equipped to meet the challenges of the future.

The current project, called Youthpower, started with the opening of school last September and will be climaxed by a National Youthpower Congress to be held February 11, 12 and 13 in the Palmer House, Chicago.

This three-day meeting on a wide range of teenage problems, highlighting nutrition, health and achievement, will draw about 200 teenagers from all parts of the nation as well as leaders in the field of nutrition research and representatives of the food industry.

Convention Proceedings

(Continued from page 9)

N.C.A. membership on Tuesday afternoon at which the programs of industry procedure in the areas of raw product controls and plant sanitation practices were adopted.

Convention discussion and action on this current matter of pesticides, additives and relations with government agencies is reported in the section starting on page 22.

Even in the various observances of the sesquicentennial of canning and can manufacture (see pages 28-29), points as to the wholesomeness of canned foods and the scientific basis of the canning operation were emphasized. And in the several technical sessions, dealing with raw products and with canning technology, the matter of quality controls and methods were uppermost on the several agendas.

CAPACITY ATTENDANCE

The convention was the first Canners Convention held in Miami Beach, and total attendance was estimated at 6,000. This included a total of 5,187 registered by the C.M.&S.A. for admittance to the exhibit of canning machinery and supplies. The total registrations included 2,175 canners and other food processors, 1,419 guests, and 1,593 exhibitors and others from the C.M.&S.A.

Despite the favorable weather that prevailed throughout the Convention period and the diversions that seemingly were available, all of the N.C.A. meetings were well attended.

The Annual Meeting on Monday morning, January 18, drew a capacity audience of 1,500, and almost all of the breakfast sessions on Tuesday, January 19, were booked to capacity well in advance; N.C.A. was obliged to stop selling breakfast tickets as early as 4 o'clock Monday afternoon.

The schedule of events had been so arranged that program sessions were held, insofar as possible, only in the mornings, so that canners, suppliers, brokers, and buyers would have other hours of the day for business contacts under the relaxed surroundings of Miami Beach's vacation atmosphere. Apparently the scheduling of Convention events, arranged by the Convention Program Committee and staff, had much to do with the excellent attendance.

THE OPENING GENERAL SESSION

On Monday morn'g, January 18, the membership and many from the allied groups assembled to hear Roger M. Blough, chairman of the board of United States Steel Corporation, deliver his key speech entitled "Aftermath in Steel;" the exchange of sesquicentennial salutes between the two industries, by President Sorensen and

Robert F. Hepenstal, president of the Can Manufacturers Institute; to nominate and elect new officers and directors for 1960; and to vote on the official N.C.A. Resolutions.

A new procedure was followed this year by Resolutions Chairman William U. Hudson, with full copies of the text of resolutions passed out to the membership. In presenting his report Mr. Hudson read or discussed only the highlight issues. A. Edward Brown served as the Chairman of the Nominating Committee that brought in the slate of officers and directors headed by Milan D. Smith as President and John C. Hemingway as Vice President, who were unanimously elected. Details of this session are reproduced on pages 13-21.

TECHNICAL SESSIONS— RAW PRODUCTS AND RESEARCH LABORATORIES

Several of the technical breakfast sessions presented speaker with prepared manuscripts, which are reproduced in this Convention Proceedings Issue. Other breakfast sessions were designed as open discussions in which canners were to take part freely.

Two such programs were on the subject of raw products problems in the production and procurement of canning crops. The first, on Tuesday, dealt with vegetables. Louis Ratzesberger, Jr., of The Illinois Canning Co., Hoopeston, Ill., presided, and a panel of experts led the discussion. The second raw products session, on Wednesday, was concerned with fruit problems and was presided over by A. Edward Brown, Michigan Fruit Canners, Inc., Fennville, Mich.

The Research Laboratories, with the cooperation of C.M.&S.A. member firms, staged the second annual Canned Foods Problems Clinic on Wednesday, January 20. This was an informal discussion period at which answers were sought for some of the technical problems of special concern to canners.

THE MARKETING SESSIONS

With 1959 President Norman Sorensen presiding, the first of two marketing sessions was held Tuesday morning, January 19, when N.C.A. Chief Counsel A. Thomas Austern spoke on "The Impact on the Canning Industry of Recent Robinson-Patman Act Interpretations" and FTC Chairman Earl W. Kintner spoke on "The Federal Trade Commission Looks at the Canning Industry."

As Mr. Sorensen brought out in his opening remarks, the Robinson-Patman Act provisions have been complicated and bewildering not only to the businessmen affected but also the lawyers involved in interpretations.

The session was intended to throw some light on the impact on the canning industry of recent new inter-

pretations of the law by the FTC and the courts.

N.C.A.'s 1960 President Milan D. Smith, in introducing the second marketing session, Wednesday morning, January 20, explained that the program was designed to give canners some idea of expected increases in the use and consumption of their products during the next two decades, so as to enable them to gear their production to such indicated demand. The speakers dealt with recent trends in public eating habits, with a projection into the future, and presented the merchandising aspects of the supermarket of the sixties.

James P. Cavin of the USDA Agricultural Marketing Service developed the significance to the canning industry of food consumption trends and Robert W. Mueller, editor of *Progressive Grocer*, spoke on "Gearing Canned Food Sales and Production to the Food Retailing Revolution."

Papers of the four speakers at these marketing sessions are reproduced on pages 30-47.

FISHERY PRODUCTS SESSION

The Fishery Products breakfast session on January 19 heard Admiral Chester R. Ward, Judge Advocate General of the Navy, on the "Law of the Sea," a subject of special concern insofar as it relates to where and under what circumstances fish canners may be free in the future to obtain fish. This was the subject of a special UN Conference in Geneva in 1958 and another such conference will be held in March of this year.

FOOD EDITORS PROGRAM

Some 40 food editors from Eastern Seaboard newspapers, magazines and other media were flown to the Convention and housed at the Ivanhoe Hotel January 16-17 as guests of N.C.A.

The Annual Food Editors Conference this year was woven into the N.C.A. Board of Directors luncheon. For their benefit, President Norman Sorensen delivered a special statement on "The Purity and Wholesomeness of Canned Foods," (see page 22) and they were participants in the birthday cake ceremonies of the sesquicentennial, as well as the exchange of salutes between the canning and can manufacturing industries at the opening general session.

A special kit of articles and copy suggestions entitled "Six Big Dates in '60" was furnished to them, and two open houses were held in the sea-side patio of the hotel on Saturday and Sunday nights, to which were invited members of the Consumer and Trade Relations and Consumer Service Committees, along with several other industry figures who are active in various phases of the C.&T.R. program.

The Association's public relations firm, Dudley - Anderson - Yutzy, attended to the management details of the food editors' travel and Convention stay, and C.&T.R. Chairman Louis Ratzesberger, Jr., was assisted by George Anderson and Katherine Smith in program matters.

Frederick A. Stare Receives Forty-Niners Service Award

Frederick A. Stare of Columbus, Wis., well-known and highly respected leader in a number of canning industry activities, was presented the seventh annual Forty-Niners Service Award in special ceremonies January 16.

The Award recognizes his many contributions to the canning industry, in positions of leadership and in assisting in the development of canning on a sound, scientific basis. He has devoted some 60 years to the canning industry, both as an active canner and in retirement.

Frank S. Langsenkamp, president of The Forty-Niners, presided at the presentation ceremonies. Special tributes to Mr. Stare were made by two of his associates, N.C.A. President Norman Sorensen and Marvin P. Verhulst, executive secretary of the Wisconsin Canners Association.

Born in Texas in 1877, Mr. Stare worked as a boy in one of the canneries operated by his father in Illinois. After moving to Iowa he taught school for a while and then worked for a railroad in Maine. After a short period he returned to Wisconsin and canning.

Mr. Stare managed various plants in Wisconsin and Indiana and became manager of the Columbus Canning Company in 1924 and its president soon thereafter. He remained at the head of this organization until 1946, when, with plants in Wisconsin, Indiana, Kansas, and Texas, it was sold. He continued in an advisory capacity until he retired a few years later.

Mr. Stare was President of the N.C.A. in 1945 and 1946. He was active also in other activities in which he sought to promote the industry's best interests.

Even in retirement Mr. Stare has associated himself with canning activities. A few years ago he published a book on the history of the industry in Wisconsin, and he is compiling additional historical pieces about canning. He is president of the Farmers and Merchants Bank in Columbus.

Previous recipients of The Forty-Niners Service Award are Dr. Samuel Cate Prescott, 1954; Dr. John Charles Walker, 1955; Dr. Louis Gardner MacDowell, 1956; Carlos Campbell, 1957; Dr. C. Olin Ball, 1958; and Dr. William V. Cruess, 1959.

Special Appearances of Officers

At the 1960 Convention, as at previous conventions, N.C.A. officers were in demand for special appearances at other meetings.

President Norman Sorensen was one of the chief speakers tributing a past President of N.C.A., Fred A. Stare, at the seventh annual Forty-Niner Service Award Ceremony, on January 16. His topic was Mr. Stare's contribution to the canning industry and was a fitting and thorough account of one of the outstanding careers of service in the annals of the industry.

President-elect Milan D. Smith and Executive Secretary Carlos Campbell were on a program sponsored by the Florida Canners Association and the Florida Citrus Processors Association, as part of the weeklong Florida Citrus Exposition. They spoke at a special Canners Day Luncheon at Winter Haven, where the Exposition was held on January 21, and some of the canners and others from the Convention at Miami Beach went there on special coaches arranged by the Florida Citrus Commission or by auto.

H. E. Apple, Jr., president of the Florida Canners Association, welcomed N.C.A. and its representatives; Mr. Campbell acknowledged the welcome; and Mr. Smith was the speaker of honor.

He paid tribute to the leadership and accomplishments of the Florida citrus industry in research and business development, and lauded its spectacular progress in orange juice concentrate and in other areas.

"What a boon it would be to our economy if growth in marketing of many fruits and vegetables could parallel the amazing record of citrus processing in the South. From 1 million boxes out of 28 million produced in this section in 1931 to 88 out of 125 million in the 1958-59 season," Mr. Smith asserted.

He stressed the advantages of research in attainment of such progress. The ultimate objective of N.C.A. conventions, said Mr. Smith, is to "learn of such improved methods of operation, which, under our capitalistic, competitive, free enterprise system, would help to assure greater profits as a result of giving customers better variety, wholesomeness, quality and value in the products being packed and distributed. * * *

"The decade of the 'sixties offers challenges not previously faced. We have every reason to be optimistic, however. By supporting programs of research and education, we help to insure a better standard of living for all of the people of the United States; we simultaneously strengthen the agricultural and food-processing industry, so important to most of us present today."

ANNUAL MEETING

PRESIDING: NORMAN SORENSEN, Country Gardens, Inc., Milwaukee, Wis., 1959 President of N.C.A.

INVOCATION: MILAN D. SMITH, Smith Canning and Freezing Company, Pendleton, Ore., 1959 Vice President of N.C.A.

GREETINGS: MR. SORENSEN, President

REPORT of the Nominating Committee: A. EDWARD BROWN, Michigan Fruit Canners, Inc., Fennville, Mich., Chairman

ELECTION of Officers

REPORT of the Resolutions Committee: WILLIAM U. HUDSON, Gerber Products Company, Oakland, Calif., Chairman

PRESENTATION of 150th Anniversary Plaques:

NORMAN SORENSEN, President, National Canners Association
ROGER F. HEPENSTAL, President, Can Manufacturers Institute

ADDRESS: ROGER M. BLOUGH, Chairman of the Board, United States Steel Corporation, Pittsburgh

INSTALLATION of 1960 Officers

Greetings to Convention Delegates

By Norman Sorensen,
1959 President,
National Canners Association

It is my pleasant responsibility to welcome all members of the National Canners Association to our 53d Annual Meeting.

We wish, also, to extend a warm welcome to our distinguished guests and to assure them that we are honored to have them with us at this important conference.

This is the year in which we observe the sesquicentennial of the birth of canning and the patent on the first metal can. We are delighted, indeed, to join with the can manufacturing industry in observing this event which has added so much to the well-being of the peoples of the world.

The advent of the tin can created a natural partnership between those who manufactured the container and those who filled those containers with healthful, appetizing foods. Not only have the consumers of the world lived better because of the goodness and convenience of canned foods, but the allied industries have profited handsomely from them as well. Livelihoods have been built on the popularity of canned foods, and not by the can-

makers and the canners alone, don't forget. The distributing trade has enjoyed a far more rapid growth and greater prosperity because of the universal acceptance of our good products.

On this 150th birthday of the tin can it might be well for us to remind ourselves that it is equally proper for us to seek a reasonable profit for our products. It is appropriate, too, to remind ourselves that if we are not paid for the ever-increasing services we are called upon to give, it is fruitless to blame anyone else. After all, in determining the proper price for our products and services, the final decision is our own. If that isn't true we had better quickly find the way to once again become the masters of our own fate.

There are many, many subjects to be considered if we are to remain a sound, profitable and reasonably happy industry. As you scan the vital subjects to be covered in this convention, you will be impressed, I feel sure, with the broad coverage that is being given to the problems which must, in due course, be solved. We invite you to participate in the meetings and the discussions in order that we may have the benefit of your considered judgment.

Before we begin our deliberations, I want to say once more that one of the nicest things about being President of the National Canners Association is the opportunity it affords to get to know the members of the staff. They are a devoted group who are eager to keep our great Association an effective and forceful instrument

for preserving a healthy industry. They deserve our enthusiastic support.

I want to thank Carlos for a very pleasant association. He has been a kind and helpful friend. A word of appreciation, too, should be given to the secretaries of the state associations who received me so hospitably when I visited them. And, finally, I thank all the members of N.C.A. for their many courtesies and for the great honor they bestowed upon the Wisconsin canning industry and me. Without a doubt, this has been the high point in my career and I am deeply grateful to all of you for my moment of glory.

NORMAN SORENSEN
1959 President



1961 Canners Convention

The 1961 Convention of the N.C.A. and C.M.&S.A. will be held in Chicago January 23-26, with headquarters in The Conrad Hilton Hotel.

Milan D. Smith Elected 1960 President of N.C.A.; John C. Hemingway Vice President; Directors Named

Milan D. Smith, president of the Smith Canning and Freezing Company, Pendleton, Ore., was elected 1960 President of the N.C.A.

He succeeds Norman Sorensen, chairman of the board of Country Gardens, Inc., Milwaukee.

John C. Hemingway, president of H. C. Hemingway & Co., Clyde, N. Y., was elected Vice President.

Carlos Campbell of Washington, D. C., was continued in office as Executive Secretary-Treasurer.

The N.C.A. membership elected 23 Directors to new terms and one to fill an unexpired term; the terms of 45 members of the Board of Directors were held over.

President Smith and Vice President Hemingway were the unanimous choice of the Nominating Committee, of which A. Edward Brown was Chairman.

Milan D. Smith

Milan D. Smith has been an active business executive in the canning industry since 1941, interrupted only by a three-year period of service (1954-57) as Executive Assistant to Secretary of Agriculture Ezra Taft Benson.

Milan Smith is president of the Smith Canning and Freezing Company, Pendleton, Ore., and of other

food packing concerns in Lewiston, Idaho, and Milton-Freewater, Ore.

Born in Clearfield, Utah, in 1919, Mr. Smith received his higher education at University of Utah and George Washington University, in Washington, D. C. Following his marriage in 1941 he took up the operation of

MILAN D. SMITH
1960 President



his canning and freezing interests, and the large agricultural holdings of these firms in Oregon and Washington. Mr. and Mrs. Smith are rearing nine children.

When he began his service with Secretary Benson, Mr. Smith moved his family to Washington. During his USDA career he served concurrently as Special Assistant for Cabinet Coordination and the Committee Management Office.

In addition to his business career, Mr. Smith has been an outstanding leader in church and civic affairs.

As a member of the Church of Jesus Christ of Latter-Day Saints he served as missionary from 1939 to 1941 and bishop in the Pendleton, Ore., ward from 1942 to 1950. He then served as president of the church area in eastern Oregon and, after moving to Washington, D. C., was president of the metropolitan area there.

His list of civic activities: president of the Pendleton Rotary Club, district governor of Rotary International, chosen first citizen of Pendleton in 1950 and first junior citizen of Oregon in 1951, president of County Community Chest, member of the National Council of the Boy Scouts of America, County Republican Executive Committee, past president of the Pendleton Chamber of Commerce, and a member of several committees appointed by the Governor of Oregon.

N.C.A. Board of Directors

At the Annual Meeting the N.C.A. membership elected 23 to three-year terms on the Board of Directors and one to fill an unexpired term. Together with 45 holdover members, following is the Board as now constituted:

DIRECTORS ELECTED FOR A THREE-YEAR TERM

Morton Adams, Alton Canning Co., Inc., Alton, N. Y.

Charles Bailey, Monmouth Canning Co., Portland, Maine

J. E. Baldwin, Snively Groves, Inc., Winter Haven, Fla.

Emmett Blackinton, Blackinton & Son Canning Co., Ogden, Utah

William E. Butterfield, Butterfield Foods, Inc., Muncie, Ind.

A. D. Elabarger, Keystone Cooperative Grape Assn., North East, Pa.

Charles W. Gardiner, XLNT Food Products, Inc., Los Angeles, Calif.

Max J. Gorby, California Marine Curing & Packing Co., Terminal Island, Calif.

Ira C. Jones, Gem Canning Co., Emmett, Idaho

Earl W. Kale, C. S. Kale Canning Co., Everson, Wash.

Horace E. Kelley, Jr., H. E. Kelley & Co. Inc., New Church, Va.

Glenn E. Knaub, Brooks Foods, Inc., Collinsville, Illinois

Kurt S. Kneiske, Mammoth Spring Canning Co., Sussex, Wis.

Paul Korn, St. Mary's Canning Co., Delphos, Ohio

P. N. Mark, Tri-Valley Packing Assn., San Francisco, Calif.

John McGowan, Columbia River Packers Assn., Inc., Astoria, Oregon

J. T. Menzies, Jr., The Crosse & Blackwell Co., Baltimore, Md.

James Sclafani, Violet Packing Co., Williamstown, N. J.

John Shafer, Hawaiian Pineapple Co., Ltd., San Jose, Calif.

Loyal E. Shannon, Otoe Food Products Co., Nebraska City, Nebr.

M. K. Tescher, Kuner-Empson Co., Brighton, Colo.

Ray B. Wakefield, Gerber Products Company, Fremont, Mich.

Vernon Whitney, Walla Walla Canning Co., Walla Walla, Wash.

DIRECTOR ELECTED TO FILL AN UNEXPIRED TERM

Grover Howard, Baron Canning Co., Westville, Okla.

DIRECTORS WHOSE TERMS HELD OVER

J. P. Arthur, Shenandoah Valley Apple Cider & Vinegar Corp., Winchester, Va.

Luke F. Beckman, The Minster Canning Co., Minster, Ohio

K. S. Benedict, Alexander & Baldwin, Ltd., San Francisco, Calif.

Paul Benson, Green Giant Company, LeSueur, Minn.

A. L. Bilgore, David Bilgore & Co., Inc., Clearwater, Fla.

F. Webster Browne, Snow Flake Canning Co., Brunswick, Maine

John C. Hemingway

John C. Hemingway is a third generation canner, president of a firm that was established in New York State in 1875. The business had operated initially in Baltimore, where the product was oysters, and was set up in New York State in 1875 as H. C. Hemingway & Co., Inc.

Mr. Hemingway has been active full time in the canning business since 1944, following his release from mili-

CARLOS CAMPBELL

Executive Secretary-Treasurer



tary service. He was sales manager of the family business from 1944 to 1955, when, following the death of his father, Stuart C. Hemingway, he became president and operating head of the company, which cans vegetables. He also is president of the Lyons Canning Company, which operates a plant in North Rose, N. Y., for canning fruits. The business also includes farms for the production of canning crops, and has freezing operations.

Born in Lyons, N. Y., Mr. Hemingway attended the Salisbury School in Salisbury, Conn., and was graduated from Cornell University with an A.B. degree in 1939. At Cornell he played three seasons on the varsity football team and wrestled heavyweight on the wrestling team. Mrs. Hemingway, Marjorie, also attended Cornell. They have five children.

After graduation he joined IBM in its Electric Accounting Machine Division. He entered the U. S. Marine Corps in 1942 as a boot and was released as a second lieutenant in 1944, when he joined his father in the canning business.

Mr. Hemingway has participated in the affairs of both the N.C.A. and the New York State Canners and Freezers Association, which he served as president in 1952. He has been a member of the N.C.A. Legislative Committee since 1952 and its Chairman since 1955. Also he was a member of the Canner-Grower Relations Committee, 1957-59, and the Home Economics Committee, 1954, and served a term on the N.C.A. Board of Directors, 1954-57.

Mr. Hemingway has been chairman of local community chest and cancer drives and has joined in numerous other civic activities.

N.C.A. records show that Stuart C. Hemingway, H. C. Hemingway, and Roy W. Hemingway, were all active in state and national affairs, dating back to 1911. Each served on the N.C.A. Board of Directors and on various committees, and each held office in the New York State Canners Association.

JOHN C. HEMINGWAY 1960 Vice President



S. B. Bush, Bush Bros. & Co., Dandridge, Tenn.
J. Burleigh Crane, Jasper Wyman & Son, Millbridge, Maine
A. L. Desmond, F. E. Booth Co., Inc., San Francisco, Calif.
James R. Draper, Draper Foods, Inc., Milford, Del.
David L. Dulany, John H. Dulany & Son, Inc., Fruitland, Md.
J. J. Edwards, Besco Products Co., Zebulon, Ga.
Robert K. Free, Hungerford Packing Co., Inc., Hungerford, Pa.
Stary Gange, Pacific Olive Co., Visalia, Calif.
George Gooding, California Packing Corporation, San Francisco, Calif.
Henry M. Haserot, Jr., Hawaiian Cannery Co., Ltd., Kapaa, Kauai, Hawaii
S. F. Hammond, Stokely-Van Camp, Inc., Celina, Ohio
Henry G. Hohweiser, Starr Foods, Inc., Salem, Ore.
Dale G. Hollenbeck, Thornton Canning Co., Lodi, Calif.

Edwin C. Kraus, Big Stone Canning Co., Ortonville, Minn.
Stephens J. Lange, Owatonna Canning Co., Owatonna, Minn.
Lewis H. Moore, L. H. Moore Canning Co., McAllen, Texas
Gary Morgan, John C. Morgan Co., Traverse City, Mich.
Alfred A. Morici, Contadina Foods, San Jose, Calif.
Sherman Morse, Jr., Beech-Nut Life Savers, Inc., Canajoharie, N. Y.
O. V. Otteson, Friday Canning Corp., New Richmond, Wis.
J. B. Park, Brandywine Mushroom Co., West Chester, Pa.
Robert Pollock, H. J. Heinz Company, Pittsburgh, Pa.
Earl A. Randall, North Ogden Canning Co., Ogden, Utah
P. V. Rea, United States Products Corp., Ltd., San Jose, Calif.
Gus Robert, The Cudahy Packing Co., Omaha, Nebr.
H. R. Robinson, Robinson Canning Co., Inc., New Orleans, La.

P. A. Schmith, Stokely-Van Camp, Inc., Indianapolis, Ind.
George C. Seybolt, Wm. Underwood Co., Watertown, Mass.
C. A. Shuttleworth, Shuttleworth Foods, Inc., Warren, Ind.
Farmer Smith, Stayton Canning Co. Cooperative, Stayton, Ore.
Victor R. Smith, Smith Canning Co., Clearfield, Utah
Robert E. Snively, The Illinois Canning Co., Hoopeston, Ill.
William H. Stare, Stokely-Van Camp, Inc., Columbus, Wis.
Edward C. Steele, The Red Wing Co., Inc., Fredonia, N. Y.
D. Thompson Swing, D. Thompson Swing, Inc., Ridgely, Md.
S. G. Tarrant, Pacific American Fisheries, Inc., Bellingham, Wash.
A. O. Verbeke, Libby, McNeill & Libby, Chicago, Ill.
W. Harlow Waggoner, Santa Clara Packing Co., San Jose, Calif.
Fred T. Wright, Beaver Valley Canning Co., Grimes, Iowa

Finance Committee

The personnel of the Finance Committee was approved at the Annual Meeting. As announced by President Smith, it is as follows:

Norman Sorensen, Country Gardens, Inc., Milwaukee, Wis., *Chairman*
H. J. Barnes, Kaysville Canning Corp., Kaysville, Utah
John L. Baxter, Snow Flake Canning Co., Brunswick, Me.
A. Edward Brown, Michigan Fruit Canners, Inc., Benton Harbor, Mich.
Edward E. Burns, Alton Canning Co., Inc., Alton, N. Y.
Herbert C. Cornuelle, Hawaiian Pineapple Co., Ltd., San Jose, Calif.
Howard T. Cumming, Curtice Brothers Co., Rochester, N. Y.
Ralph O. Dulany, John H. Dulany & Son, Inc., Fruitland, Md.
L. E. Felton, Green Giant Company, LeSueur, Minn.
Peter M. Filice, Filice & Perrelli Canning Co., Richmond, Calif.

William A. Free, Sr., Hungerford Packing Co., Inc., Hungerford, Pa.
Robert A. Friend, Friend Brothers, Inc., Melrose, Mass.
Fred C. Heinz, H. J. Heinz Company, Pittsburgh, Pa.
William U. Hudson, Gerber Products Company, Oakland, Calif.
S. M. Kennedy, Consolidated Foods Corp., Chicago, Ill.
Adolph C. Ketzler, Bordo Products Co., Chicago, Ill.
H. F. Krimendahl, Stokely-Van Camp, Inc., Indianapolis, Ind.
D. P. Loker, Star-Kiat Foods, Inc., Terminal Island, Calif.
Roy G. Lucks, California Packing Corp., San Francisco, Calif.
George B. Morrill, Jr., Burnham & Morrill Co., Portland, Me.
Fred M. Moss, Idaho Canning Co., Payette, Idaho
Maxwell N. Naas, Naas Foods, Inc., Portland, Ind.

E. M. Nuckols, Jr., Campbell Soup Company, Camden, N. J.
Louis Ratzesberger, Jr., The Illinois Canning Co., Hoopeston, Ill.
B. E. Richmond, Richmond-Chase Co., San Jose, Calif.
Emil Rutz, Schuckl & Co., Inc., Sunnyvale, Calif.
George C. Seybolt, Wm. Underwood Co., Watertown, Mass.
E. W. Shineman, Jr., Beech-Nut Life Savers, Inc., Canajoharie, N. Y.
James M. Shriver, The B. F. Shriver Co., Westminster, Md.
John A. Snively, Snively Groves, Inc., Winter Haven, Fla.
Alfred J. Stokely, Stokely-Van Camp, Inc., Indianapolis, Ind.
Henry P. Taylor, Taylor & Caldwell, Inc., Walkerton, Va.
A. O. Verbeke, Libby, McNeill & Libby, Chicago, Ill.
H. L. Wedertz, Lakeside Packing Co., Manitowoc, Wis.
J. B. Weix, Oconomowoc Canning Co., Oconomowoc, Wis.

N.C.A. Adopts Resolutions on Industry Relationship with FDA, Marketing Orders, and Interstate Barriers

The N.C.A. membership at a special executive session on January 19 unanimously adopted a resolution dealing with the canning industry's relationship with the Food and Drug Administration.

Following is the text of that resolution, which had been reported by the Resolutions Committee for consideration at the special meeting on that subject:

CANNING INDUSTRY RELATIONSHIP WITH FEDERAL FOOD AND DRUG ADMINISTRATION

For more than half a century the National Canners Association and those responsible for the administration and enforcement of the Federal Food, Drug, and Cosmetic Act have worked together to assure consumers that they receive wholesome, informatively labeled, and high quality canned foods. The Federal Food and Drug Administration has long recognized that this goal could not possibly have been attained solely through legal enforcement procedures but required the voluntary cooperation of the canning industry through the Research Laboratories, the Raw Products Research Bureau, and the other divisions of the Association. The consumer, the Food and Drug Administration, and the canning industry have benefited from what Commissioner George P. Larrick has termed "the habit of close cooperation" between the National Canners Association and that administration. That policy of close and confident cooperation has contributed to the formulation of reasonable food standards,

to the development of improved canning techniques, to the protection and improvement of both the raw and processed product, to better plant sanitation, and to the enactment of legislation when needed for consumer protection. Both the National Canners Association and the Food and Drug Administration have fully appreciated their joint responsibility to the consumer, and in cooperatively meeting that responsibility have won for canned foods a deserved reputation for wholesomeness and quality. In the public interest this Association continues to subscribe to these established policies of mutual trust, confidence, and full cooperation.

The Resolutions Committee reported initially at the Annual Meeting on January 18. At that session the membership unanimously approved resolutions

Reaffirming the canning industry's opposition to federal marketing orders or other compulsory government controls on canning crops;

Reaffirming the canning industry's opposition to state and local regulations that interfere with the interstate distribution of food products that are wholesome and informatively labeled; and

Calling public attention to the observance throughout 1960 as the 150th anniversary of the birth of canning and of the first metal can.

The Convention resolutions were presented by William U. Hudson, Chairman of the Resolutions Committee, and were adopted unanimously.

Following is the text of the Convention resolutions adopted at the Annual Meeting:

PRESIDENT NORMAN SORENSEN

To lead it during 1959 the National Canners Association was privileged to have from the pioneer canning State of Wisconsin a President endowed with quiet wisdom, possessed of vast experience in the industry, and abundantly talented in enlisting the willing cooperation of others. Born to a canning family, Norman Sorensen soon demonstrated outstanding capacity in business management and in devoted service to his state and national associations. As President of this Association he infused its every activity with enthusiasm and energy. Pre-eminently, he emphasized for the canning industry his own splendid creed of improved quality, and contributed greatly to the public reputation of canned foods. His insight into the problems of all canners, large and small, coupled with his genial friendship, led to a notably better understanding among members of our industry. To Norman Sorensen this Association acknowledges its enduring gratitude.

FEDERAL MARKETING ORDERS

Canners operating in a competitive market free of economic controls have provided consumers with an ever-increasing amount of consistently excellent canned foods at prices that are established by market conditions rather than by external regulations. Recognizing the competitive advantages to be derived from efforts to improve quality and reduce costs, canners have invested heavily in research and quality control, and have been

quick to adopt new methods of promotion, distribution and marketing in response to recognized needs. Interference with the canner's opportunity to exercise his own independent judgment, based upon years of invaluable experience, by the imposition of government restrictions and controls, would almost certainly foreclose further innovation and development, and would seriously threaten the future availability of sufficient quantities of high quality canned foods at reasonable prices. Every Congress in recent years has recognized the superiority of private competitive enterprise over a system of rigid market control, and in the interest of growers, canners, and consumers has refused to permit the application of compulsory marketing orders to canning crops. This industry continues to endorse this Congressional policy, and unalterably opposes any extension to canning crops of compulsory government controls operating through involuntary marketing orders.

IN MEMORIAM

Once again we note with deepest sorrow the passing during the past year of friends and colleagues in the canning industry. Our loss is assuaged by the fond remembrance of those whom we were privileged to know and work with and who contributed much to our lives and common endeavor. We will ever cherish the memory of:

Floyd Asher
Alger Bush
Fred C. Bush
Carle C. Conway
Charles Wesley Dunn
Dr. Walter H. Eddy
Arvid M. Erickson
Gennaro A. Filice
G. Sherwin Haxton
R. E. Lambeau
W. J. Mutschler
Dr. Bernard E. Proctor
Clyde L. Queen
A. J. Rogers
Henry M. Seippel
Albert T. Smith
O. E. Snider
A. F. W. St. John
Clarence Stewart
Dr. O. B. Williams

INTERSTATE BARRIERS

The movement of the nation's food supply from grower to processor to distributor to consumer under fully competitive conditions, with a minimum of delay, cost and waste, can be accomplished only if state and local food regulations are substantially uniform, and do not vary significantly from federal requirements. In a competitive economy, free competition assures the consumer that he will receive high-quality products at reasonable prices, but competition results only when processors are free to choose their markets on purely commercial considerations, and freely to

distribute informatively labeled food products that comply with federal law. State and local regulations that impose requirements beyond those contained in the federal law serve only to hamper the free interstate distribution of canned foods. The canning industry reaffirms its opposition to state and local regulations that prohibit ingredients recognized by federal law, or that standardize products to reflect local preferences, or that specify particularized labeling requirements, as creating unwarranted interstate barriers and defeating the interests of consumers, canners, and growers.

THE 150TH BIRTHDAY OF CANNING

It is no coincidence that over the past 150 years, from the time of Nicolas Appert and Peter Durand, the art of canning has been enhanced by the technology of container manufacture. The container is an integral part of the canning process. It is the package in which canned foods are marketed, and out of which consumers use canned foods with assurance as to their purity and safety. That canned foods have gained widespread acceptance and growing popularity is due in large measure to the scientific research which canners and can manufacturers have conducted and which they have generously supported in industry, university and Government laboratories. Simultaneously, gains in one industry have been accompanied by growth in economic stature in the other. Through constant attention to quality and through new product development, canners and can manufacturers have produced for America and the world a dependable supply of wholesome and nutritious foods of unquestionable purity. In 1960, the sesquicentennial year of canning and of the first metal can, the canning industry calls public attention to its close association with the can manufacturing industry and to the important contributions of both to the public welfare.

CANNING CROPS CONTEST

For five years a contest in the production and marketing of fruit and vegetable crops, known as the Canning

Crops Contest, has been sponsored by the National Canners Association and administered by the National Junior Vegetable Growers Association as an activity designed to promote good canner-grower relations and to encourage young people to learn by doing, to stimulate among youth interest in agriculture and particularly horticulture as a career, and to acknowledge publicly the important role of the grower in the canning industry. Much of the work involved in encouraging participation locally among these young people and assisting them individually in their projects has been carried on by fieldmen on the various canners' staffs. The Association expresses its appreciation to these men for their efforts and urges their continued interest and enthusiasm for an activity of great value to our Association.

GUEST SPEAKERS, THE PRESS, AND THE ALLIED TRADES

Without substantial participation by many individuals and groups outside the canning industry, a National Canners Association Convention could not hope to be a success. Our guest speakers, the allied trades, newspapers, radio, television, and the trade press have each been responsible for an important contribution to the 1960 Convention. The Association is grateful for all they have done and directs the President and the Board of Directors to convey its appreciation to each of them.

NATIONAL CANNERS ASSOCIATION STAFF

The contribution made by a national trade association to an industry is directly proportional to the ability and diligence of its staff. The National Canners Association, its members, and the canning industry are extremely fortunate to be served by a staff who year after year surpass themselves in devotion to duty, imaginative effort, and conscientious response to the challenging tasks with which they are faced. The Association expresses its sincere appreciation to Carlos Campbell and his staff for the consistent excellence of their work.

Statement on Taking Office as President

By Milan D. Smith,
1960 President,
National Canners Association

May I thank you for the honor extended in electing me to serve as President of this great Association. I was reared in the canning industry tradition, so I can't imagine a more satisfying experience than to play a key role during the coming year in representing the members of the N.C.A.

In recent days I have heard several panel discussions and individual

analyses, all geared to the outlook for 1960, and the decade ahead. Most have been optimistic, some have had reservations, a few have interwoven their comments with threads of pessimism. Whatever your point of view, there seems to be no quarrel with the fact that we live in an amazing and exciting age. Developments are occurring weekly that would have been practically beyond belief 25 years ago.

In this great nation, our industry has been a major contributor to the high standard of living, which we enjoy. It is my hope to aid in telling the public about the growth—yes, the

romance of the canning industry. As a result of its achievements we have the greatest variety of wholesome products available to any people, any time, anywhere.

Last summer I spent several weeks behind the Iron Curtain. What I saw in the Soviet Union convinced me that we are far ahead in agricultural production and in the processing and distribution of food stuffs. Our progress has been made under a system of free enterprise in an environment of freedom. I pledge myself as your President to support and strengthen this way-of-life which made America great.

My further desire is to work effectively with canner members and others in solving the problems that face us. We cannot rest on our laurels. This is a dynamic economy. We must ever be alert to find new and better ways to pack and merchandise our products, thus assuring the consumer a continuance of high quality, reasonably priced, nutritious canned foods.

You may be sure that an expanding market will be secured if our industry maintains this enviable record of giving the consumer variety, convenience and exceptional value, even during

periods when the purchasing power of the dollar in many lines has been shrinking due to the ravages of inflation.

We have good reason to be proud of the National Canners Association. It represents packers of approximately 80 percent of the nation's canned foods. Their products have a wide range and though quite naturally at times their interests vary, our members have demonstrated over the years a willingness to resolve their differences for the common good. We welcome those not now members of N.C.A. to join forces with us.

During my period of service as chief of staff in one of the great federal departments, I learned that those in the government hold this Association in high regard. They admire and respect our Executive Secretary, the other officers and the members of the staff who have all served us so competently over the years.

To my friends in the Pacific Northwest, where my business interests are located—to all of you hailing from many sections of the United States—I again say thank you for your confidence. I close with the hope that I may make a substantive contribution to the progress of this Association.

Aftermath in Steel

**By Roger M. Blough,
Chairman of the Board,
United States Steel Corporation**

There are many reasons why a fugitive from Pittsburgh, New York, Washington and other points north might welcome this opportunity to be with you in Miami today—the warm skies, the soft tropical breezes and all the delightful attractions which are to be found upon the beaches—such as sea shells, for example.

But there is an even greater number of reasons why I accepted with such willingness your invitation to speak at this gathering of the canning clan, and they are not confined to the esthetic advantages afforded by the surroundings in which you have chosen to meet. Nor are they, I must say, entirely untinged by a certain commercial interest in your affairs.

Wherever the National Canners Association assembles in annual meeting—and especially when it is joining its allied suppliers in celebrating the sesquicentennial of the canning industry's birth—there are not only a very large number of important American businessmen aboard; but there is represented such a sizable segment of steel users as to exert an almost irresistible magnetic force upon any steel man.

Moreover, there are rumors abroad that one or two of you have been coating a speculative eye in the direc-

tion of what those in our industry sometimes call a "substitute for steel"—that you are wondering what a can made of aluminum, instead of steel, would look like and how it would perform—and even what it would cost.

Then, too, I have been told that glass and paper are edging their competitive way further into the container world—and by a strange coincidence it appears that when one material edges in, another seems quite often to edge out.

And just to complete the picture, there is a hint that some of the can makers have gathered in a few base boxes of tin plate from off-shore in recent months.

So it was not just a siren song of the sea shells that moved me to respond months ago to your welcome invitation to talk with this friendly gathering.

To be completely concise, it was a siren song of our mutual friend, Oliver Willits, who asked me to come down here to say a few words. So here he is, and here I am and here you are, and we are meeting in the aftermath of a steel settlement which ended the longest and most costly labor dispute in the history of the steel industry.

It will hardly surprise you then that the topic of my little talk today is "Aftermath in Steel." For that aftermath has been interesting and in some respects a trifle confusing.

Since the steel settlement was reached, just two weeks ago today, it has become a well-handled football which has been passed around the respective Washington backfields with such mystifying speed and skill that I am not quite sure which team has the ball and which goal line they are heading for.

From the statements which have been made by partisans on both sides, I gather that the settlement either was or was not—or perhaps might be—inflationary; and that the credit—or the blame—for the settlement should go either to certain Administration officials or to others, even including the father of a presidential candidate—a name which had not been mentioned so far as I know until after the agreement was initialed. So that phase is about as clear as it will ever get, but it still leaves many unanswered questions.

Lacking the power of omniscience, I shall not attempt to answer all the questions that may arise, but since I was slightly involved in the settlement there are a few simple facts I would like to mention. Let me start at the beginning.

And in the beginning, of course, there is—as there always must be—the fact of competition.

Some of you, as I intimated before, are using cans made of tin plate imported from abroad; some of you are trying aluminum. Some of you are thinking of other substitutes for steel.

From a company point of view—and from an employee point of view—I can say that this poses a challenge which we not only have no alternative but to accept, but a challenge that we are happy to accept.

Realistically every one of us in United States Steel knows we must make it competitively possible for you to continue to use our tin plate and that is certainly our purpose, and we realize that you have your competitive problems, too. When we help you solve your competitive problems we then and only then also find a solution to our own.

And may I add with emphasis on the employee point of view that this is the only way that we can maintain the present good jobs in the steel industry and develop new ones.

So in view of the competition, not only in your field, but in many other major steel products as well, it was evident to us at the outset of these negotiations that we must try to prevent an increase in employment costs that would exert an inflationary effect upon our production costs or cause a rise in our prices.

In saying this, let me repeat a basic economic fact that I have repeated many times before: that rising prices are merely the measure of inflation, not the cause of it; that rising prices cause inflation like wet streets cause rain.

The causes of the kinds of inflation we are talking about here are rooted deeply in the rising production costs which in turn force prices upward. And the most important single element in rising production costs is, of course, the seemingly endless rise in the cost of employment; for employment costs, direct and indirect, represent more than three-quarters of all costs in American industry.

So our basic objective was to obtain what would in these terms be a noninflationary agreement. And that objective, if attained, would help everyone—employees, customers, stockholders, pensioners and every one else in the general public—just as inflation hurts every one.

But the union naturally had its own objective; and that objective, it said, was to gain an even richer agreement than it had won three years ago when the last steel negotiations took place. And since that agreement proved to be one of the most inflationary in steel's history, it was obvious that the two objectives were incompatible and irreconcilable.

As the bargaining progressed, several things became evident.

It became clear, for example, that the union would not settle for an employment cost increase that could conceivably be absorbed out of savings that might be expected on the basis of the historical long-range gains in normal productivity. It was also painfully clear that output per man-hour in the steel industry had been rising at a much slower rate than employment costs per man-hour have risen in the last 20 years, despite the huge capital expenditures that the steel companies have made in new, more efficient plants and machinery.

Beyond that, it was apparent that in some way it was necessary to find better ways to improve our productive efficiency and to eliminate in the interests of everyone connected with our respective businesses the roadblocks to constant improvement of our competitive position.

These then were the two basic issues in the negotiations: a noninflationary agreement and cooperation at the plant level toward a more rapid improvement of productive efficiency in steel. They are not inconsistent issues; they are part and parcel of each other. And it was in expectation of greater efficiency that the companies made, on November 15, the last of the seven offers which they put to the union during the course of the negotiations. It called for employment cost increase of about 2.7 percent a year, plus a cost-of-living protection different from that finally adopted.

The union's refusal of that offer created a serious deadlock. The union not only refused to bargain lower but, after negotiating settlements in other industries, withdrew its pre-

vious offer and raised its demands very substantially.

So it was at this point, and under these circumstances, that Administration officials in Washington sought to bring the parties together and eventually recommended a settlement which both parties ultimately accepted.

A great many contradictory statements have been made concerning that settlement—and especially about the economic provisions in it—so perhaps it would be helpful to you today if I would try to clear up some of the confusion that surrounds it. And nothing has been more confusing perhaps than the conflicting estimates of what the new package will cost.

One way of figuring the cost of the settlement is to talk in the terms frequently used by many union negotiators—to allow 8 cents for insurance, about 2½ cents or 3 cents for new pension benefits, another 7 cents for each of two wage increases and finally 1.8 cents for increments in the wage scale, but nothing for escalation or creep in insurance cost and nothing for the pyramiding effect of wage increases on so-called "fringe costs," or for cost of living.

If you do your reckoning this way—and many of the new settlements have been announced on this basis—you might say that the steel industry agreement involves a total package of 26 or 27 cents per man-hour, plus—at maximum—two 3 cent cost-of-living adjustments. And viewed in this light, the increases granted look pretty favorable in comparison with earlier settlements that have been made.

Now you can look at it this way if you want to do so, but *should* you?

We who are involved in the management of our business have our noses constantly rubbed into that little thing called cost. We also have a good idea of what pushes costs up and how difficult it is to keep them within bounds. Why then should we understate our employment cost increases?

It is not only the face amount of a 7 cent wage increase that touches off inflationary forces. It is the total employment cost involved in that item and for the steel industry, a 7 cent wage increase, with two-tenths of a cent more for each of 30 higher job classifications, plus the effect of this increase on vacation costs, holiday and Sunday premiums, insurance, pensions, social security payments, and incentives, adds up in the end to 11 cents of increased employment costs—not 7 cents.

Do we help our inflation problem then by deluding ourselves into talking about 7 cents when the real cost push on inflation is 11 cents? For the steel industry the difference between 7 cents and 11 cents is many millions of dollars in direct employment costs alone; and those millions must come from somewhere.

Do we even present a true picture of what the wage increase means to the employees in our industry? The answer is obvious. That additional 4 cents in cost goes automatically to the employee either in the form of more cash in his pay envelope or in the form of increased protection in new pension and other benefits.

And that is why the steel companies have constantly presented the effects of their various offers in terms of the real total cost of those offers. That is where the 39 to 41 cents an hour that you read about comes into the picture in connection with the steel settlement. The total cost is, I believe, the only meaningful way in which to measure the size and effect of our settlement, or for that matter any settlement.

Turning then to the settlement itself, we had better see what it actually is and how it compares with the companies' last offer, with a previous contract under which the industry operated during the past three years, and with other settlements that had been made with the steel union in recent months.

As to the period covered by the new contract, the benefit provisions concerning insurance, pensions, and supplemental unemployment benefits are for a full 36 months, while the wage provisions cover 30 months.

The new agreement will increase the total hourly employment costs of the companies by an average of from 3¼ to 3½ percent a year, including cost of living reduced by any insurance cost creep. Since this cost increase will vary considerably from company to company, it is not easy to be more precise.

In comparison with, say, 3½ percent, the seventh offer of the companies made during the negotiations would have added, as I have said, about 2.7 percent a year to hourly employment costs without allowance for possible cost-of-living adjustments. Since output per man-hour in our industry has risen by an annual average of only about 2 percent over the past 20 years—and since this 2 percent is about the same as the rate of increase in the nation's productivity—it is obvious that the last offer made before the final settlement may in itself have gone somewhat beyond the shadowy boundaries of what might be called a noninflationary proposal.

Certainly it would be difficult to argue under these circumstances that the actual settlement, which is about one-third higher than the companies' last offer, is not an inflationary one. On the other hand, no one can deny, I think, that it is less inflationary than the agreements averaging 8 percent annually which the steel industry has experienced since 1940.

And it seems clear that the rippling effect of the new settlement—that is, its effect on other wage settlements in other industries—will be less inflationary than the earlier agreements.

Over the period of the 1956 contract, the industry employment cost increased substantially more than the 8 percent per year, or 81 cents—a rate of increase more than four times the rate of increase in output per man-hour. And compared with this, the present settlement of 3½ percent is less than two times the rate of increase in output per man-hour; and the inflationary effect is less than half as great.

But what about the other major agreements that the steel workers union has reached with other companies and other industries during the weeks prior to the settlement in steel? Wouldn't the steel industry have been better off if they had accepted those same terms of settlement?

Well, the answer to that is unqualifiedly no. And in saying that I want to make one thing very clear. The cost of what may appear to be the same benefits, as I have said, varies widely from company to company and perhaps more widely from industry to industry. I have no way of knowing what the agreements which the steelworkers made with Kaiser, and with companies in the aluminum, copper and can-making industries actually cost the companies affected. But I think I do know what the same benefits applied to our own industry would cost had they become effective in it.

And the annual increases in the hourly cost of those benefits, if applied to the steel industry, would have ranged from 4¼ to 5 percent—or from 10 to 15 cents an hour more over the period of the agreement. So in comparison with these costs our 3½ percent looks considerably less inflationary.

But you have doubtless read, as I have, that the steel companies could have settled on much more favorable terms had they done so earlier before the injunction or before the strike, or at some other mysterious point along the road, and to that I can only say that I doubt it.

Most people who talk that way are using the unrealistic 26-cent type of arithmetic that I mentioned earlier.

Now I am sure you have also read critical statements having political overtones to the effect that government officials in recommending the terms of the steel settlement had been given some sort of commitment that the steel companies would not raise their prices until after the election. I would like to make it clear that no such commitment was asked and none was given.

Each company in the steel industry, as in every industry, is free to make its own price determination. And under the antitrust laws this must be so. For any government official involved in a labor negotiation to seek a price arrangement with the steel

companies would have been completely out of character and I believe improper. And I want to make it abundantly clear that the pricing policy followed by United States Steel is based upon the competitive and other factors affecting prices and that United States Steel has no commitment connected with this settlement or otherwise regarding its price action.

As you know, of course, United States Steel announced—on the day that the settlement was reached—that for the present it did not contemplate any increase in the general level of its steel prices. That action was consistent, I believe, with the competitive conditions of which I have spoken. For that is what this whole wage controversy was all about from the start: our attempt to prevent an inflationary rise in production costs that would tend to force a price increase, which in turn would place us at a greater competitive disadvantage in relation to the producers of certain foreign-made products and substitute products here at home.

While we were not wholly successful in winning a noninflationary settlement, I believe that compared with earlier years we did make progress. At the same time, you realize, as I do, that if a wage increase is not earned and an inflationary cost increase results and is not met through a price advance—even at the expense of a possible loss of markets to our competition at home and abroad—then it can only be met in one of two other ways, and then only temporarily: through a diminution of profit or a curtailment of certain postponable projects, such as research, for example.

And any way you look at it, it all comes out to the same thing in the end:

To whatever extent profits are diminished, so is the ability of a steel company to acquire new and more efficient tools of production. And to whatever extent the purchase of these more efficient facilities is delayed, so the competitive position of the steel companies is impaired and job opportunities in the steel industry are likewise lessened. For less profit means fewer tools—or poorer tools—of production.

In the same way, of course, any curtailment of expenditures for research can be fatal to the competitive position of any enterprise in this dynamic world in which we live. For example, I have already mentioned the stiff competition which the steel industry faces in the container industry. But there are at least two ways of meeting this kind of competition.

One is by holding down costs of production, as we have fought so hard to do. And the other is by devising in our research laboratories new and better steels and ways of making steel—a never-ending search now receiving

much more of our time, our attention, and our resources than ever before.

In this connection, it may interest you to know that at our Research Center in Monroeville, Pennsylvania, more than 600 man-hours per day are devoted to the development of better tin plate and to the problems of the canner and the can maker.

I am sure it will interest you to know, for example, that we are now working on a new tin plate which—if it proves to be as promising as now appears—will be lighter, thinner, and stronger than any tin plate you have ever used. And I need not point out to you gentlemen the economic advantages of such a product to you, nor the competitive advantages of such a product to us.

So it all boils down to this: Inflated costs—however they are met—are a menace to the competitive position of not only every company in the steel industry, but of all those who earn their living in it. Which brings us down to what is, perhaps, the all-important question: How inflationary will this contract prove to be in terms of competition?

And the answer to that depends, in large part, of course, upon the steelworkers themselves, and upon their union officials at both national and local levels.

As I have said, we tried to resolve the "local working conditions" issue in the hope of removing contractual barriers to improved ways of handling our work. So far the issue is unresolved, although machinery has been provided in the settlement whereby the matter can be resolved if there is a will to do so on both sides.

To this end, each of the parties is committed as a matter of policy to encourage prompt settlement of local working conditions problems at the local level by mutual agreement. This is, after all, the best place—and there are about 50,000 of such places in the industry at the foreman level—to reach understanding regarding better ways to get on with our constantly changing and all-important job of production.

The settlement also provides for a joint committee under an impartial chairman to make recommendations by November 30, 1960, for such action as the parties may mutually agree upon.

But effective ways of production are not confined—and never can be confined—to contract language. It is a matter of attitudes and of people . . . of their hopes, their fears, their aspirations, and their achievements, just as the success or failure of any human endeavor always is in the end. And in the end, the effort to find better means of achieving effective production will depend upon the spirit, and the degree of cooperation, with which the task is approached, rather than

upon the printed words on a printed page.

I believe that our long travail has served another important purpose in this connection—that the steelworkers, and their union leaders, recognize now more than ever the dangers which inefficiency holds for their own competitive position and their ultimate job security.

Now that the shouting and the tumult have ceased I have not the slightest doubt in the world that, if approached in a spirit of good will and understanding, and of mutual respect on both sides, it may be possible to provide a greater measure of true, long-range, job security than the steelworkers as a group have ever known, while minimizing at the same time any hardships that individual steelworkers might experience as a result of improved work practices.

If both sides—and here I include the union leaders as well—can view this common problem in terms of what its solution will mean to human beings, we can hardly fail, I think, to get on rapidly and more cooperatively with production in the steel industry. And if that be true, the inflationary effects of the steel settlement, I believe, can be much less than they otherwise would be.

Now I have spoken my piece, and in doing so I have tried neither to minimize nor exaggerate any of the facts concerning the final settlement. That some settlement had to be reached was a matter of first importance. That it could have been better from our point of view—and from the nation's also—is clear, but that it



ROGER M. BLOUGH

marks some major steps in attaining needed objectives in our industry, I do not have the slightest doubt.

So, in conclusion, let me leave you with these simple observations:

Never before has the steel industry been so solid in its determination to resist being a middleman passing out brass rings on the merry-go-round of inflation; and by comparison with recent years, never before has it made so much progress.

Never before has our industry pushed forward in negotiations so

vigorously this issue of improving its competitive position, nor clung to it so effectively. And never before has it made such progress in protecting its competitive position by getting better understanding of our common problems among all ranks, members of management and of union alike.

And out of it all we have learned, I think, a number of things:

That any solution to inflation must involve a much more modest approach to the big annual rounds of wage increases that our country has been incurring—a lesson hard to come by, but important in the future fortunes of our industrial economy.

That stating only partially the full effect of employment cost increases is illusory and self-defeating if we are to understand and contain the cost-push type of inflation.

That foreign competition can be met only if we as a nation become more competitive in world markets and in our own domestic markets.

And that there is no lasting beneficial wage increase unless it is earned; and no job security unless there is useful production of a product which can be profitably sold at a competitive price.

But out of it all, too, we have discovered that we have *not* yet learned one thing:

How any industry—ours included—can, under present-day circumstances, and with or without the intercession of government, reach a noninflationary wage agreement.

And that is the lesson it is high time we as a nation take to heart.

Officers Elected by Other Associations

Officers of other associations elected at their annual meetings during the Convention period:

CANNING MACHINERY AND SUPPLIES ASSOCIATION

President—William E. Vaughn, American Can Company, New York City; vice president—Robert A. Sindall, Jr., A. K. Robins & Co., Inc., Baltimore; secretary-treasurer—W. D. Lewis, Washington, D. C. (reelected); assistant treasurer—Jeanne Savin, Washington, D. C. (reelected).

THE FORTY-NINERS

President—Edward E. Judge, *The Canning Trade*, Baltimore; vice president—Charles E. Schick, Waukesha Foundry Co., Waukesha, Wis.; secretary-treasurer—Louis E. Kibler, A. K. Robins & Co., Inc., Baltimore.

OLD GUARD SOCIETY

President—Robert L. Eirich, H. S. Crocker Co., Inc., Baltimore; first vice-president—Fred M. Moss, Idaho Canning Co., Payette, Idaho; second vice president—D. W. Reynolds, Reynolds Preserving Co., Sturgeon Bay, Wis.; secretary-treasurer—John Dingee, Haddonfield, N.J. (reelected).

YOUNG GUARD SOCIETY

President—Robert C. Connelly, F. H. Langsenkamp Co., Indianapolis; first vice-president—David J. Nay, Selected Spices, Inc., Detroit; second vice president—A. W. Dutcher, John H. Dulany & Son, Inc., Fruitland, Md.; third vice president—Mel Whitman, Food Machinery & Chemical Corp., Seattle; secretary-treasurer—Herb Shek, H. S. Crocker Co., Inc., Baltimore (reelected); recording secretary—Arthur J. Judge, *The Canning Trade*, Baltimore (reelected).

NATIONAL PRESERVERS ASSOCIATION

President—J. S. Phillips, Puritan Preserve Co., San Francisco; vice presidents—Francis J. Oelerich, Oelerich & Berry Co., Chicago; Alvin W. Crain, The Whipple Co., Natick, Mass.; and William Martin, American Syrup and Preserving Co., Nashville, Tenn.; secretary and treasurer—William E. Hanks, The Bama Company, Birmingham, Ala.; executive vice president—Richard F. Curry, Washington, D. C. (reelected).

ASSOCIATION OF CANNERS STATE AND REGIONAL SECRETARIES

President—Dr. Wilbur A. Gould, Ohio Cannery and Food Processors Association, Worthington; vice president—Charles R. Carry, California Fish Cannery Association, Inc., Terminal Island; secretary-treasurer—Richard E. Reed, Maine Sardine Council, Augusta.

FOOD REGULATION

(at the Board and Food Editors Luncheon)

ADDRESS: "The Purity and Wholesomeness of Canned Foods"—NORMAN SORENSEN, 1959 President, N.C.A.

(at the Special Meeting of the Membership)

PRESIDING: MILAN D. SMITH, 1960 President, N.C.A.

PRESENTATION: "The Background and Legal Framework of the Canning Industry's Current Problems in Food Regulation"—H. THOMAS AUSTERN, Chief Counsel, N.C.A.

PRESENTATION: "N.C.A. Policy on Grower Use of Pesticide Chemicals"—DR. C. H. MAHONEY, Director, N.C.A. Raw Products Research Bureau

PRESENTATION: "Food Additives Program of the N.C.A. Research Laboratories"—DR. IRA I. SOMERS, Director, N.C.A. Research Laboratories.

PRESENTATION of resolution on the Canning Industry's Relationship with the FDA

The Purity and Wholesomeness of Canned Foods

(at the Board and Food Editors Luncheon)

By Norman Sorensen,
1959 President,
National Canners Association

The canning industry, through its national, state and regional associations, its members and suppliers, has developed a method of food preservation which has enhanced the diet, improved the nutrition, and added to the well-being of millions of consumers for a century and a half.

Canning has enabled our nation to eat better at lower cost than any other. Because of raw product practices, harvesting and processing skills, developed and controlled by this industry, canned foods are most frequently more pure and wholesome, more nutritious and appetizing than the same foods in other forms. Because of the canning process and the container, canned foods are safer than most of the same foods in other forms.

The canning industry can point with pride to its self-imposed standards of product-quality and quality-control, to its cooperation with the Federal Government's Pure Food Laws, and indeed, to its historic leadership in helping initiate these laws. It has cooperated and complied with such laws and regulations from the inception of such legislation in 1906 to the present time and has in fact helped write them.

The private industry of canning is more concerned with the health, welfare, and safety of the American consumer than any government agency could be. Industry's incentives are enlightened self-interest—a stronger motive than mere compliance with government edict, and less susceptible to violation.

The integrity of the canning industry and its concern with the public well-being are manifest when one considers that its horticultural scientists and its fieldmen are constantly dealing with and administering controls of the use of weed-killers, insecticides and pesticides, food additives, growing and harvesting techniques; and its technologists in their methods of inspection and quality-control during processing—all steps from farm to table leading to the purity of canned foods as delivered to the consumer. The industry's expenditures on quality-control are among its principal costs. The industry's record of co-operation with government agencies

is outstanding and has been publicly acknowledged by every Food and Drug Commissioner from Wiley to Larrick and by most Secretaries of Agriculture. The latest such statement was by Commissioner Larrick in 1954, who said, in reviewing history of the Pure Food Law, "The canning industry did not sit idly by. The N.C.A. established its own laboratory. It provided its members with the technical knowledge necessary to solve the problems of the sanitary production of canned foods. This industry provides an outstanding example of self-regulation at its best." In 1954 a former Secretary of Health, Education, and Welfare, Mrs. Oveta Culp Hobby, said, "the work being done by your scientists and home economists marks a genuine contribution to the health and well-being of the American people."

Maintaining Public Confidence in Canned Foods

By Milan D. Smith,
1960 President,
National Canners Association

Institutions and industries, like individuals, are often judged by their reputations. And, unfortunately, reputations often rest on what the public is led to think as much as upon the facts.

We in the canning industry have long been proud—we believe with warrant—of the universal reputation of canned foods for wholesomeness and quality. Certainly the National Canners Association has devoted more than five decades of zealous effort to maintain not only the integrity of canned foods but also constant scientific research looking toward their constant improvement.

In that achievement, it is fair to say, the industry has enjoyed the confidence and cooperation of the Federal Food and Drug Administration.

That administrative attitude was not merely based on the historical fact that the Association had adopted, as its very first resolution back in 1906, a program of support for the passage and enforcement of sound national food and drug legislation.

Nor did it derive from the further historical fact that the scientific staff of the Association's Research Laboratories was originally enlisted from the Bureau of Chemistry that preceded the Food and Drug Administration.

Instead, over the years, the solid scientific work of the Association, its reputation for objectivity, its zealous adherence to the facts, and the re-

liability of its staff and counsel contributed importantly to the development of a fine working relationship between the Association and the FDA.

As you will learn today, this policy of close and confident mutual respect between the various divisions of the Association and the FDA, has paid dividends to the canning industry. It has helped in the development of reasonable and fair food standards. It has enabled the Association to assist individual canners when they were confronted with seizure or prosecution. It has, above all, enhanced the reputation of canned foods as being wholesome and of high quality.

But during the past few months, many in the food industry, and in its important canning segment, have begun to wonder whether it will be possible to maintain the fine working relationship that has existed in the past.

During recent months there has been an unfortunate series of incidents, press releases, and publicity which have given many canners and others in the food industry considerable pause.

Two and a half weeks before Thanksgiving the entire country buzzed with a dramatic press release by Secretary Flemming stating that cranberries and cranberry products from two states contained a cancer producing chemical. I have been told that legally, under the recent changes in the law, Food and Drug was warranted in seizing the cranberries that contained residues of the weed killer, aminotriazole. Their legal right to seize had nothing to do with whether any hazard to public health existed.

But there is respectable authority for the proposition that no real hazard did exist. The fact is that less than one percent of cranberry production was eventually found to contain any residue.

But the absence of any real public hazard that would warrant the publicity that was stimulated by Secretary Flemming did not in any way minimize the economic catastrophe that overtook the cranberry growers and processors. Nor did it cushion the impact on the public image of those products. This it may take years to repair.

The canning industry, as many of you know, was not alone in this situation. There have been somewhat similar instances in the poultry and confectionery industries which led to public apprehension and to serious trade dislocations.

Many of us have forgotten that among federal and state laws, the Food, Drug, and Cosmetic Act contains the drastic triple sanctions of seizure, injunction, and criminal prosecution.

Almost all of us have forgotten that under these laws a man can be fined

and sent to jail even though he knew nothing about the adulteration or misbranding involved, and indeed as a reasonable operator had done everything possible to prevent their occurrence.

This drastic idea that the food and drug laws can be enforced even against innocent violations makes it vital that the rules be administratively applied in an intelligent, reasonable, and measured manner.

In the meetings of the Administrative Council and the Board of Directors, the recent changes within the law and in certain regulatory techniques have been fully canvassed.

We have considered under three headings these problems that are of direct importance to the production of canned foods and of the maintenance of public confidence in them. What is the underlying problem? What should be the Association policy in dealing with them so as to accomplish the best possible job for the canning industry? And how can the present activities of the Association's various divisions in these areas be expanded so as to meet the admitted difficulties that have been created by the expansion of food and drug laws and the new attitudes and emphases that seem to prevail?

This afternoon we hope to give you—for your discussion and consideration—an insight into these questions.

Mr. Austern will first give you the background and legal framework

which must be understood in order to make any operating judgments for the Association and for your own individual operations.

Dr. Mahoney will outline for you the programs that will be put into effect by the Raw Products Research Bureau to implement that policy in terms of practical application in your own procurement of raw materials.

Dr. Somers will then tell you about the plans for expanded and intensified further work by the Research Laboratories to assist canners in meeting the requirements of these vastly expanded laws and particularly the interpretations which are being given to them.

In its activities, every trade association has two functions. It must with the approval of its membership determine its own detailed operations in order most effectively to help its individual members. It must also speak for the industry as a whole to the public and to government.

The operating policy to be pursued by the N.C.A. in these difficult areas will be outlined to you in detail. But, in addition, we wish to put before you a public statement of the basic policy in the form of a Convention resolution which expresses it.

Accordingly at the outset I shall ask Secretary Carlos Campbell to present this resolution. After you have heard the story—and after we have had discussion about all parts of it—we will consider its adoption.

The Background and Legal Framework of the Canning Industry's Current Problems in Food Regulation

By H. Thomas Austern,
Chief Counsel,
National Canners Association

Many years ago, Mr. Justice Holmes observed that in some areas a page of history is worth a ton of logic.

The real story of Food and Drug law enforcement cannot be found in the law books, but in what FDA officials, and those working with them, do in everyday practice.

For more than 50 years, the canning industry has supported sound Food and Drug laws.

Quickly to run that chronology, it supported

the original law of 1906;

the McNary-Mapes Amendment of 1930, providing standards of identity and of minimum quality;

the present basic Food and Drug statute, passed in 1938;

the 1953 Factory Inspection amendment;

the 1954 Hale amendment simplifying food standard procedures; and the 1954 Miller Pesticide law, re-

quiring pretesting and prior approval of agricultural chemicals.

As to the Food Additives amendment of 1958, the canning industry originally objected to the whole idea of licensing of all food ingredients. It urged that there be an adequate grandfather clause to exempt existing ingredients recognized as safe.

It also opposed regulation according to "functional value," that is, by a bureaucratic judgment as to whether the consumer should be allowed to have in a food a particular wholesome ingredient on the ground that someone in government thought she did not need it.

But when the "functional value" point was abandoned by FDA, the canning industry supported the Food Additives amendment.

Over these five decades of Federal Food and Drug regulation, as President Smith has told you, there developed a splendid working relationship between the Association staff, and, I might add, its Counsel, and the FDA.

That relationship rested on the solid scientific work of this Associa-

tion, its developed reputation for objectivity, its always sticking to the facts, and the respect and confidence it thereby earned with the career officials of FDA.

The results were invaluable to the industry.

For that cooperative program yielded for the industry reasonable standards of identity, fill of container, and minimum quality, even though their development, to cover most canned foods, was a long arduous process for the Association staff.

It yielded reasonable working tolerances on mold counts, and on many other problems of adulteration.

It enabled committees of this Association to have full and forthright discussions with top FDA officials on many important areas the canning industry was concerned with.

While there were occasional differences of opinion—and with its background of sound facts the Association could be firm when necessary—the FDA has repeatedly and publicly commended that half-century of cooperation.

Let me also make clear that in many areas of FDA activity, this fine working relation still exists.

The development of descriptive labeling and labeling terms—and particularly the continued development of food standards—goes on effectively.

Only recently the Association achieved for the industry workable standards of identity and fill of container for tuna, for artificially sweetened canned fruits, and a number of others are still pending.

In 1957, and again in 1958, further exemptions from full ingredients statement for still unstandardized canned fruits were secured; and agreed upon standards for these are presently on file with the FDA.

But what has primarily provoked this series of meetings on Food and Drug regulation at this Annual Convention has been the current interpretation and administration of the Food Additives amendment, and the unique extra-legal publicity methods recently employed by Secretary Flemming.

In order to get those into focus, I have been asked to present, in non-legal terms, a brief summary of the recent additions to the Food and Drug laws.

First, as to pesticides: Since 1947 there has been an Economic Poison Act that forbade any pesticide chemical to be shipped unless it is first registered with the U. S. Department of Agriculture. The word "pesticide" includes any chemical—anything used to control weeds, insects, and other pests—and was recently broadened.

Next, in 1954, the Miller law, now called the Pesticide amendment, required that every pesticide chemical used on a raw agricultural commodity

had to be pretested if its use would leave a residue on any raw fruit or vegetable.

Its use on crops had to be licensed—either without a tolerance if it was completely safe, or with some specified tolerance in terms of the number of parts per million of residue.

Consequently, it became illegal for anyone to ship a fresh fruit or vegetable, either for direct marketing or for processing, if it contained excessive residues.

As to processed foods, the basic rules were not changed by the Pesticide amendment. It had nothing to do with a canned food, and in 1954 the then existing Food and Drug law still applied.

But to make assurance clear, the N.C.A. asked the Food and Drug Administration to adopt a regulation saying this: If a canner received raw material that complied with the Pesticide amendment, and used good manufacturing methods to remove as much residue as possible, the canned product would be considered acceptable under the then existing Food and Drug Act when it did not contain more residue than was allowed on the raw fruit or vegetable when shipped for fresh market.

If, however, the canner, with or without knowledge, took in raw material containing residues that exceeded the tolerance, and his canned product had a higher residue than allowed for the fresh product, his pack might be subject to seizure.

But as to the canned product, the FDA, as the law then stood in 1954, had to prove that the amount of residue left in the can was in fact injurious to health.

The Food Additives amendment of 1958 dramatically changed that rule. That Act applies directly to all foods other than raw agricultural commodities. It covers all canned foods and drinks.

Under the Food Additives amendment, no unexempted ingredient whatever, chemical or otherwise, may be used in a food unless it is first tested and its use then licensed by the FDA.

The only exemptions are for food ingredients that under the grandfather clause were generally recognized as safe, or those which had specific prior written approval by the FDA.

The heart of the change in the Food Additives amendment was that if anyone used an ingredient which was not exempted and whose use had not been licensed by regulation, the food containing it was automatically made adulterated whether or not it was actually injurious to health.

That was the essence of the licensing under the Food Additives amendment.

Perhaps you can now see exactly what happened, legally, in the Cranberry Episode.

Let us look at the way these new legal rules operated on canned cranberries.

The weed killer, aminotriazole, had been registered under the Economic Poison Act. It could be lawfully sold by the chemical manufacturer.

Because its use after harvesting would not leave any residue in the cranberries, it had never had to be approved or to be licensed under the Pesticide Act for use after harvesting.

But, when it was improperly used before harvesting, the fresh cranberries that contained minute residues of aminotriazole became illegal under the Pesticide Act.

The frozen or canned cranberries that contained the residue of aminotriazole automatically became illegal as adulterated under the Food Additives law.

So, technically, the FDA did not have to prove that the aminotriazole residue in the processed cranberries was injurious to health. If it found any residue, it had the legal right to seize and automatically to condemn those cranberries.

What caused the crisis was something else:

The manufacturer of aminotriazole had also wanted to get it licensed for use prior to harvest, and he had filed a petition urging that it be licensed with a tolerance.

The toxicological data which it submitted to the FDA was interpreted by the FDA as showing that when fed in microscopic amounts to rats, aminotriazole would cause cancer.

In the meantime, there had been some grower use of aminotriazole before harvesting in Oregon and Washington.

When the FDA discovered some aminotriazole residue in fresh cranberries and in processed berries packed in those two states, Secretary Flemming held his press conference and in effect said that eating these cranberries would be a cancer hazard to human beings.

The screaming cancer headlines flashed across the nation, and the cranberry market was ruined. It has been reported that 80 percent of the 1959 crop—fresh, frozen, and canned—is still in first hands.

When the shooting was all over, it was found that something less than 1 percent of all the 1959 production had ever contained any residue, or was ever in violation of the law.

While the Food and Drug Administration was technically correct on that 1 percent in that the presence of any residue rendered the product unlawful, there is a great deal of doubt whether the microscopic amounts present ever constituted a hazard to any consumer.

There is, of course, a section in the law that authorizes the Secretary to

disseminate information involving "imminent danger to health."

Whatever else one might say about the Cranberry Episode, there are only a few who would even suggest that there was any imminent hazard.

How did that cancer concept get into Food and Drug regulations? It comes from the Delaney clause in the Food Additives law.

Congressman Delaney wanted to block the Additives bill unless that cancer clause was added. It says that no ingredient in a food can be licensed if it has been "found" to induce cancer in man or animal.

The key lies in that word "found." The legislative history made clear that some actual facts must exist—and more importantly that a scientific judgment must be made—whether the amount of the additive that might be found in the human diet would cause cancer.

If any ingredient, when fed at an extremely high percentage in a rat's diet, is thought by anyone to cause cancer in any test animal, then the Delaney clause is now said to prohibit the licensing of that ingredient.

FDA will say so, even if the ingredient is used in food in microscopic amounts, and there is no proof that as actually used it would ever injure any human being.

It may be worthwhile to explain the peculiar switch in logic which FDA made in 1959.

Congressman Delaney had originally wanted to make illegal any food ingredient that might cause cancer.

This "might rule" was too much for the FDA itself because its own scientists pointed out that anything, even distilled water or sugar, might cause cancer and indeed that no one really knew the cause of cancer.

The "might cause" would make unlawful many customary items of the diet. So the law was changed to "found to cause" cancer.

Last year everyone believed that the Delaney clause test of "when ingested" meant when eaten at some level approaching the amount used in food.

Nevertheless, in 1959 the FDA seemingly reversed its field. It now insists that the Delaney clause in effect means that if any ingredient could be reasonably suspected of causing cancer, those who want to use it must prove that it could not do so—even at the highest conceivable level in any test animal diet.

Superficially, that sounds like scientific conservatism; but it is neither scientific nor logical, because it requires proof of a negative.

Since nobody knows what causes cancer, FDA says that you can never prove that there is any level that will ever be completely safe.

In practical terms, a suspicion can be substituted for a scientific finding, and no one can ever disprove the suspicion on the present state of scientific knowledge about cancer.

Let me assure you that on that basis many common food ingredients—perhaps pepper, spices, and most certainly all forms of whiskey—would probably not pass the Delaney clause.

As a legal proposition, these fantastically broad interpretations are hard to fight. No one can upset the Food and Drug Administration in court when it can come in as the guardian of the public health and argue that it is protecting the public against getting cancer.

The judge and jury will grab their stomachs, remember John Foster Dulles or some relative who died of cancer, and most certainly rule in favor of the protectors of the public health and against the food manufacturer.

That would be bad enough if it were limited only to new food ingredients.

But the FDA has coupled it with a very narrow interpretation of the grandfather clause in the Additives law. Their rules as to what ingredients are to be generally recognized as safe are believed by many to be unwarrantedly narrow and to sweep in old ingredients supposed to be exempt.

Secretary Flemming has now also announced that he will ask Congress to include the Delaney clause both in the grandfather provision of the Food Additives amendment and in the basic Food and Drug law itself.

He has also said that in the pending new Color Additives amendment, which will require licensing of every kind of color or decolorings used in any food, he will insist upon having the Delaney cancer clause.

To sum up, how does all this legally affect the canning industry?

As to pesticides, the cranberry story is perfectly clear.

If any canned food contains any residue of a pesticide which has not been licensed, or any residue in excess of the tolerance provided in the license for the raw material, the canned product becomes automatically adulterated without any further showing.

Even where the raw material conforms to the Pesticide Act, the cancer still cannot fully escape liability under the Food Additives law.

Unless he is prepared to show that he used good manufacturing processes to reduce the amount of residue, he still may be guilty.

That is a very important question for the future, and leads into further and extended hard work for the

N.C.A. Research Laboratories and Raw Products Research Bureau.

On all other canned food ingredients, everyone believed a year ago that the grandfather clause took care of most common ingredients added to canned foods.

But under this crazy quilt of present Food and Drug interpretations of the grandfather clause, there have arisen serious problems that may startle you.

Finally, under the Color Additives bill now before Congress, there will not only be licenses, and tolerances, and the Delaney clause, but several new and equally troublesome provisions.

The FDA will get the power to decide which parts of the food, drug, and cosmetic industries are to be permitted to use a particular color for which a tolerance must be provided.

There will be a system of fees for the licensing of any so-called Color Additive.

There will be no grandfather clause whatever. Colors now used will run along for two years, but by the end of that time they will all have to be licensed.

"Coloring" will cover anything that colors—or decolorizes, or in any way changes the color of a food—and any ingredient or process that affects the color of food.

That definition most certainly would cover maraschino cherries, the Blair process in peas, and the use of any artificial color in any canned food or drink.

Finally, as President Smith has reminded you, the Food and Drug Act has a triple-barreled set of enforcement procedures.

The FDA can seize products that do not comply. It can bring criminal prosecutions. It can put canners under injunctions.

As a lawyer, I have had, over the past year, to tell many people that the chances of successful court defense are very dim when the FDA can support every seizure or prosecution with this flamboyant claim of a cancer hazard.

I have had to advise that any businessman would have to be extremely cautious in facing the publicity resulting from litigating a seizure or prosecution where it would be claimed that his product included a cancer hazard.

But now, we have the added threat of a press release embodying these scare tactics—even where there is no issue of violation—and even where there may be no imminent hazard to the public health—and where the resulting newspaper publicity can ruin a product or class of products.

A loss of public confidence in one canned food may destroy confidence in all canned foods.

I can also report a markedly increased activity on the part of maga-

zine and newspaper feature writers. Everybody eats, and everybody is worried about his health and frightened to death of cancer.

As Carlos Campbell once put it, for newspapers, magazines, radio and television, these subjects have great interest and vivid appeal.

N.C.A. Policy on Grower Use of Pesticide Chemicals

**By Dr. C. H. Mahoney, Director,
Raw Products Research Bureau,
National Canners Association**

The National Canners Association, in order to protect the integrity of canned foods and to assure the prevention of any hazardous residues, has adopted certain specific recommendations which will be made to all canners in the United States.

These recommendations are based primarily on the legal aspects of complying with Food and Drug regulations and regulations of the U. S. Department of Agriculture. The canner need not necessarily approve the use of all pesticide chemicals which have been registered for use on each crop, but has the privilege of putting limitations on the use of certain chemicals if they in any way influence the flavor or quality of the crop being purchased.

Following is an outline of the N.C.A. policy concerning grower use of pesticide chemicals:

1. Canners processing crops that have been treated, or produced on land that has been treated, with any pesticide chemical—including insecticides, fungicides, rodenticides, herbicides, fumigants, defoliants, nematocides, desiccants, and plant growth regulators—should be absolutely certain that such chemical has been accepted for registration by the U. S. Department of Agriculture under the Federal Insecticide, Fungicide, and Rodenticide Act.

2. Each canner should prepare and supply his growers with a list of pesticide chemicals from those accepted for registration under the Federal Act, which may be used on crops which he processes. It should be the responsibility of canners to see that their growers use these registered pesticide chemicals in accordance with the recommendations of the U. S. Department of Agriculture, State Agricultural Experiment Stations, and the Extension Service.

3. Each canner should make sufficient periodic contacts with his growers to assure himself that if these pesticide chemicals are used, they are used properly.

4. Canners should maintain detailed records showing how pesticide chemi-

cal in any balanced business judgment, these new laws, interpretations, and the possibilities of publicity have become new facts of life that must be faced by the Association and the industry.

That is the legal background against which the Association must go forward.

cals have been used in the production of crops for processing.

5. Each canner purchasing crops under contract should obtain written statements from his growers that they will use only registered pesticide chemicals, in accordance with recommended procedures. Canners purchasing canning crops on the open market should obtain written statements from the growers that they used only regis-

tered pesticide chemicals, in accordance with recommended procedures.

6. Canners should participate in the development of an educational program on the proper use of pesticide chemicals in cooperation with their State Agricultural Experiment Station, the Extension Service, producer organizations and other interested groups.

The N.C.A. plans to furnish each member a copy of USDA Agricultural Handbook No. 120, which lists most of the pesticides recommended for use on fruits and vegetable crops, including tolerances, the minimum number of days from last application to harvest, dosage rates per acre, and limitations on the usage.

The Raw Products Research Bureau will continue to keep abreast of developments in the use and regulation of pesticides, herbicides, nematocides, and plant regulators, and will keep members informed, through a pesticide news letter.

Food Additives Program of the N.C.A. Research Laboratories

**By Dr. Ira I. Somers, Director,
Research Laboratories,
National Canners Association**

The Research Laboratories of the National Canners Association have worked on pesticide methods for years. Our early work dealt with lead, arsenic, fluorine, and nicotine.

With the advent of organic pesticides and enactment of the Miller Pesticide amendment, pesticide work received increased attention. This began with the adaptation of chemical methods for DDT and other chlorinated hydrocarbons. It soon became evident that other methods were needed, and work began on bioassay techniques for detecting and estimating pesticide residues, as follows:

- (1) A grant was placed at the Boyce Thompson Institute to study bioassay methods, using mosquito larvae as the test species. This method did not prove suitable for our needs.

- (2) A grant was placed at the University of California to develop suitable procedures for extracting and purifying pesticide residues. The extractive procedure, coupled with a housefly bioassay method, gave good results.

- (3) Adaptation of the bioassay method by the N.C.A. Laboratories for use as a quality control procedure.

- (4) The method was published and made available to all interested laboratories.

- (5) The Laboratories furnished fly pupae to those getting started and helped them set up.

- (6) Schools were set up by the Laboratories to instruct canners' technologists in the bioassay techniques.

As part of the early program, the N.C.A. Laboratories instituted cooperative studies on Experiment Station samples with the N.C.A. Technical Committee on Baby Foods. Each laboratory, including N.C.A., ran the samples and compared results as a check on methods.

The off-flavor potential of organic pesticides was investigated and a program was set up to encourage studies at universities to evaluate the flavor effect, if any, of each new pesticide. Much of this work was done at the University of California and at Oregon State College.

The N.C.A. fly bioassay method, now being used routinely by several canning industry laboratories, has been applied to 15 pesticides including both chlorinated hydrocarbons and organic phosphates. Although the method has been checked on a total of 18 products, most developmental work was done on spinach and apple samples. It was thought that if the method was satisfactory for these, it should work on other products.

A bioassay method for 2,4-D and other plant hormones was developed, using cucumber seeds.

Chemical methods were adapted or put into use by the N.C.A. Laboratories for 11 pesticides. Considerable work has been done in the N.C.A. Laboratories on organic chlorinated hydrocarbons, which indicates that a potentiometric method might be used

for this purpose with good results. This is a very simple method and may have great potential in the future.

The Laboratories do some service work in this field each year, but the analyses for aminotriazole swamped the staff and pointed out the impossibility of attempting extensive studies of this type. The N.C.A. Laboratories are prepared, however, to help in any emergency.

The Food Additives amendment greatly expanded and complicated the problem. An additive is any substance added to food, intentionally or otherwise, which is not generally recognized as safe and which has not had prior approval.

In addition to pesticides, some substances requiring consideration for clearance are detergents for product washing or cleaning; germicides; antibiotics; gases used for germicidal treatments of some food ingredients; any substance transmitted from a container to its contents; the status of some can liners is not clear; flavorings, colorings, oils, processing ingredients for products such as olives and pimientos. Some such materials may have prior sanction, some may be generally recognized as safe, others not. The problem is to determine their status.

If the Color Additive amendment is enacted as proposed by FDA, many more problems will arise, such as the Delaney clause, no grandfather clause, and licensing. The legislation may cover all colors, or any process that might affect the color in any way.

THE N.C.A. LABORATORY PLAN

The pesticide program as just explained will be continued and work on methodology will be pushed.

The N.C.A. Laboratories are co-sponsoring a symposium on instrumentation and methodology at Michigan State University in March, 1960, for industry representatives, and are considering similar sessions in other areas.

The Laboratories will work with FDA, USDA, and pesticide manufacturers on adaptation of methods for use by industry technologists.

The Laboratories will consult with FDA and pesticide manufacturers regarding the toxicity and potential carcinogenic properties of zero tolerance pesticides and herbicides and advise canners of the hazards in the use of these materials.

The N.C.A. Laboratories will work with other agencies (trade associa-

tions, National Research Council committees, university food technology departments) on the additives problem.

They will run duplicate samples from canners to help them check the accuracy of the analytical methods used in their residue control programs.

N.C.A. Laboratories will keep industry informed so as to help guide their thinking and assist with their problems. Canners with questions on additives will be encouraged to check with N.C.A. If desirable, special problems can be taken up with FDA. Packers will be informed on all matters relating to food additives.

Additions to the list of additives generally recognized as safe will be called to the attention of the industry as new materials are considered by FDA. Opportunities will be sought to explain the Food Additives amendment in technical conferences and at canners' meetings.

The Laboratories will assist members in locating sources of information on previous usage or testing of additives.

The N.C.A. Laboratories, with Counsel, will continue to work for individual member canners or groups of

canners with FDA on any of these matters.

THE BURDEN OF PROOF

The N.C.A. Laboratories are not set up to test toxic possibilities of additives. This is too costly and is the responsibility of the manufacturer. Many commercial laboratories are equipped to do this.

N.C.A. will assist anyone or any group who may want a product tested to make contact with a competent testing laboratory. One such project is now in progress at Wisconsin Alumni Research Foundation.

THE CANNER'S RESPONSIBILITY

Canners cannot shift responsibility to suppliers by guarantees. They must themselves be sure. If an additive is not on a safe list or given prior approval, the canner should let N.C.A. check it.

Frequent change of codes should become a common practice so that any questionable lots can be segregated. Packers must keep records on the product, the ingredients, or any factors which may affect the product, and to set up more effective quality control.

N.C.A. Resolution on Canning Industry Relationship with FDA

Following is the text of the resolution adopted unanimously at the special meeting of the N.C.A. membership on January 19 for consideration and discussion of the canning industry's relationship with the Food and Drug Administration:

CANNING INDUSTRY RELATIONSHIP WITH FEDERAL FOOD AND DRUG ADMINISTRATION

For more than half a century the National Canners Association and those responsible for the administration and enforcement of the Federal Food, Drug, and Cosmetic Act have worked together to assure consumers that they receive wholesome, informatively labeled, and high quality canned foods. The Federal Food and Drug Administration has long recognized that this goal could not possibly have been attained solely through legal enforcement procedures but required the voluntary cooperation of the canning industry through the Research Laboratories, the Raw Products Research Bureau, and the other di-

visions of the Association. The consumer, the Food and Drug Administration, and the canning industry have benefited from what Commissioner George P. Larrick has termed "the habit of close cooperation" between the National Canners Association and that administration. That policy of close and confident cooperation has contributed to the formulation of reasonable food standards, to the development of improved canning techniques, to the protection and improvement of both the raw and processed product, to better plant sanitation, and to the enactment of legislation when needed for consumer protection. Both the National Canners Association and the Food and Drug Administration have fully appreciated their joint responsibility to the consumer, and in co-operatively meeting that responsibility have won for canned foods a deserved reputation for wholesomeness and quality. In the public interest this Association continues to subscribe to these established policies of mutual trust, confidence, and full cooperation.

SESQUICENTENNIAL of the Birth of Canning

(at the Board and Food Editors Luncheon)

ADDRESS: "The Sesquicentennial of the Birth of Canning and of the First Metal Can"—NORMAN SORENSEN, President, National Cannery Association

(at the N.C.A. Annual Meeting)

ADDRESS: "The Sesquicentennial of the First Metal Can and of the Birth of Canning"—ROGER F. HEPENSTAL, President, Can Manufacturers Institute

The Cannery Convention was the stage for the opening of joint celebrations and programs honoring the 150th birthday of the discovery of the canning process and the patent for the first metal container. Both of these events occurred in 1810.

Since food manufacturers are the largest users of cans, and since the first can made was designed for food, it was considered appropriate by the officers of the National Cannery Association and the Can Manufacturers Institute that the N.C.A. Convention be the first of the joint industry celebrations to be held during the 1960 sesquicentennial year.

Anniversary events took place at the luncheon of the Board of Directors; at the Food Editors Conference; and at the Annual Meeting—the opening general session. A specially-constructed podium, in the form of a huge silver can, and bearing the anniversary scrolls of N.C.A. and C.M.I., was the centerpiece for these activities.

Just before dessert was served at the Board luncheon N.C.A. President Sorensen announced to his audience of Directors, N.C.A. guests from allied industries, and the visiting food editors, that birthday cake would be the next course; the room was darkened and a file of waiters entered carrying a cake with a lighted candle to each table. Mr. Sorensen and Roger F. Hepenstal, president of C.M.I., together blew out the candle and cut the cake at the speaker's table, to the accompaniment of "Happy Birthday" from the orchestra.

Mr. Sorensen gave special introductions to these other industry leaders taking an active part in the sesquicentennial year observances:

The annual Food Editors Conference really began with the Board luncheon, so they could receive the benefit of the special sesquicentennial ceremonies and speeches. Following the luncheon they were given special kits containing copy designed to publicize the important contributions of canning. These included special copy for each of six "red letter days" in canning history, at different times throughout the year, according to future opportunities in 1960 for publicity on canned foods nutrition, variety, convenience and quality.



In the exchange of salutes marking industry observance of the sesquicentennial of canning and can manufacturing, the C.M.I. presented a gold can to the N.C.A. The presentation was made by Roger F. Hepenstal, president of C.M.I. (right), to Norman Sorensen, N.C.A. president, at the N.C.A. Annual Meeting.

The exchange of official salutes between N.C.A. and C.M.I. took place at the Annual Meeting on Monday, January 18. On this occasion, Mr. Sorensen presented Mr. Hepenstal with a testimonial scroll carrying the following inscription in illuminated type:

"In observance of the Sesquicentennial of the patent on the first metal can, issued on August 25, 1810 to Peter Durand by His Majesty George III of England, the National Cannery Association salutes the can manufacturing industry for its significant contributions to the art of canning during the past 150 years and for its service to mankind in furnishing safe, strong and durable containers for canned foods. Thus, through the joint efforts of canners and can manufacturers has the harvest of the field, the fruit of the orchard, and the catch of the sea been brought vastly beyond the tem-

poral confines of the seasons and the limits of distance to the tables of even the poorest; thus was authority and control over Nature's products bestowed upon mankind."

Mr. Hepenstal, in turn, honored the canning industry with a congratulatory speech and handed Mr. Sorensen a beautifully engraved gold can, nested in a velvet lined box, and bearing the inscription:

"Presented to National Cannery Association, January 18, 1960, Miami, Florida, by Can Manufacturers Institute in Recognition of 150 Years of the Service of Canning and Cans to Mankind."

The sesquicentennial was the subject of one of the official Convention resolutions passed that morning, and at an earlier session of C.M.I. & S.A., that organization presented a scroll to C.M.I.

The Sesquicentennial of the Birth of Canning

(at the Board and Food Editors Luncheon)

By Norman Sorensen,
1959 President,
National Canners Association

Most of us here remember that when we were children our mothers used to try to keep dessert a secret and a surprise. If she was successful, we didn't know what dessert was going to be until she brought it out from the kitchen.

I'm going to violate that custom by telling you right now that you're going to have cake for dessert. This is a birthday party; in fact we're celebrating two birthdays.

January 30 marks the 150th anniversary of an event we regard as the birth of canning—the official acceptance by the French government in 1810 of Nicolas Appert's method of preserving food by cooking it in a hermetically sealed container.

And on August 25, 1810, six months after Appert's method was published to the world, the first patent for the manufacture of a metal container was granted by George III of England.

Nearly everyone in this room owes his livelihood to these two historic events, which led to the establishment of two great industries—canning and can manufacture.

During 1960 these industries have a right to be proud and to print and

distribute such slogans as you see here on this podium—"Serving mankind for 150 years."

The National Canners Association is happy to have its annual convention inaugurate this year of observance of these anniversaries. We want it to be a year during which our millions of consumers will be made reacquainted with the accomplishments of canning, with the scientific and economic progress it has made and continues to make, and its great contributions to the public welfare.

The officers and executive bodies of N.C.A. and the Can Manufacturers Institute are joining hands in efforts to accomplish this, and I am honored to introduce certain leaders of participating organizations here with us today:

Roger F. Hepenstal, president of the Can Manufacturers Institute

H. Ferris White, executive director of C.M.I.

Delbert A. Johnson, chairman of the Public Relations Committee of C.M.I.

S. J. Barca, Mr. White's assistant

R. D. Coursen, director of The Malayan Tin Bureau

John C. Swift, president of the Canning Machinery and Supplies Association

W. D. Lewis, secretary of C.M. & S.A.



turers Institute to represent the can manufacturing industry and its personnel on this important anniversary. I feel highly honored to be in the position of spokesman for the multitude of splendid men and women who devote their major productive efforts in one way or another to metal cans. When I realized that I was to be their spokesman I tried to think of what our people in the scattered can plants and offices would like me to say on this occasion. As you might expect, I came up with a variety of thoughts because I guess I happen to know a variety of character types in this industry!

However, there are two universal sentiments that I know everyone would like to have expressed on this occasion. First, I am sure these people would want me to say that while we have a splendid history to review, we should in reviewing it emphasize the wonderful future ahead. As we all know, it is thrilling just to think about the dynamic years that await us. And just as the metal can served the horse and buggy age, we are confident it will go on serving even more, the electronic age and the nuclear age we are now entering.

The other thought I know they would want me to express is one of gratitude to the nation's canning industry who join us in celebrating this sesquicentennial anniversary. Both industries were born as twins and so it is most appropriate that the initial observance of our sesquicentennial be held together here at the National Canners Association's 1960 Convention.

With this feeling of "thank you" for the 150 years of mutual assistance, harmony, and progress between our industries, I would like to present the National Canners Association with this gold can on behalf of the Can Manufacturers Institute. Let us think of this can not simply as a symbol of past achievements but even more important, as a symbol of the golden future that awaits our respective industries.

The Sesquicentennial of the First Metal Can and of the Birth of Canning

(at the N.C.A. Annual Meeting)

By Roger F. Hepenstal,
1960 President,
Can Manufacturers Institute

This year marks the 150th anniversary of the existence of both the canning and the can manufacturing industries. On August 25, 1810, an Englishman named Peter Durand was granted a patent by King George III for the idea of using "vessels of glass, pottery, tin, or other metals of fit materials." In the same year, across the channel in France, Nicolas Appert published a treatise entitled, "The Art of Preserving All Kinds of Animal and Vegetable Substances." His unique idea for an effective means of preserving food brought him a prize of 12,000 francs offered some 15 years previously by the French government.

This year—1960—marks the sesquicentennial anniversary of these two important events which really revolutionized human existence. I do not feel I am being prejudiced when I say it is

an extremely important anniversary in the history of man's progress. I say this because, realistically, the metal can in modern times has become more the symbol of plenty than the cornucopia.

Our two industries together form a major segment of the national and world economies. Today in the United States alone, over 42 billion cans are produced annually for more than 135 industries that can in excess of 2,500 different products. The annual average consumption of metal cans is, in our own country, for example, 250 per person; 859 per family. Few industries can claim the distinction of reaching into the daily lives of so many people and serving them so frequently and so usefully.

What I am saying in effect is that today, 150 years after the birth of metal cans, modern society as we know it simply could not exist without the humble but all-important metal can.

It has been my good fortune as the 1960 president of the Can Manufac-

MARKETING SESSION

PRESIDING: NORMAN SORENSEN, Country Gardens, Inc., Milwaukee, Wis., 1959 President of N.C.A.

ADDRESS: "The Impact on the Canning Industry of Recent Robinson-Patman Act Interpretations"—H. THOMAS AUSTERN, Chief Counsel, N.C.A.

ADDRESS: "The Federal Trade Commission Looks at the Canning Industry"—EARL W. KINTNER, Chairman, Federal Trade Commission

The Impact on the Canning Industry of Recent Robinson-Patman Act Interpretations

By H. Thomas Austern,
Chief Counsel,
National Canners Association

This morning I have been given a somewhat hazardous assignment. To venture to discuss recent interpretations of a statute in the presence of the Chairman of the Commission responsible for its enforcement—indeed to question some of that agency's decisions—is a bold task.

Only Earl Kintner's warranted reputation for objectivity, his scholarly interest in legal analysis, his demonstrated familiarity with the complex patterns and problems of the food industry, and his abiding faith in the fundamental antitrust concept of free competition, permit me to accept this challenge.

What I say perhaps may be of interest. What he tells you will be important and in large measure controlling.

The Robinson-Patman Act is now over 21 years old. It was administratively weaned, and spent a quiet and obscure childhood, during the sellers' markets and the periods of short supply that prevailed just before, during, and immediately following World War II. While necessary wartime production and maximum price controls were in effect, it was of relatively little significance. Only during the past 10 or 12 years, has it matured in vigorous enforcement, expanded scope, and particularized application to the food industry from which it originally emerged.

To understand where this Anti-Price Discrimination Law has come, and where in the hands of a revitalized Trade Commission it seems likely to go, you ought perhaps remember several of its characteristics that have long intrigued both the American businessman and his lawyer.

There is, first of all, the basic paradox that a law intended to curb economic abuses and coercion by large buyers contains primarily direct prohibitions of what a seller may do. The pattern reminds one of efforts to prevent accidents by arresting injured pedestrians instead of careless drivers. This curious turn-about—this Con-

gressional effort to control buying abuses by regulating the sellers who are presumably its victims—is largely an historical accident.

In a now famous and forthright address to the Food Chain Convention last October, Chairman Kintner made clear that the general purpose of the Robinson-Patman Act was, and still is, to prevent large buyers from using their economic power to get unwarranted price and other concessions.

Yet, except for bogus brokerage, the Act has been enforced principally against sellers both by Federal Trade Commission cease and desist orders and in costly private treble damage suits. In large part, this resulted from a restrictive Supreme Court interpretation in 1953 of Section 2(f), the provision forbidding the knowing inducement or receipt of an illegal price concession. Only recently has the Commission again tried to move against buyers, and then only as part, or as the aftermath, of a proceeding against some seller. Indeed, in doing so, it has often used not the Robinson-Patman Act but its own organic law against unfair competition primarily because the buyer provision of the Robinson-Patman Act prohibits the knowing inducement of a price discrimination and does not reach the inducement of services or advertising allowances.

Why over the years industry has not sought a more direct and pointed rewriting of the law—to control buying abuse by regulating what the buyer may or may not do—remains a mystery. Some explanation may reside in the ambiguities of the Robinson-Patman Act, in its seeming invulnerability to any amendment, and perhaps in its peculiar anti-competitive side effects.

No one can challenge that the law is ambiguous, ineptly worded, and difficult both to understand and to enforce. Its text has been called a lawyer's dream and a businessman's nightmare. Its verbal quirks have engendered heated trade controversies in which canners have often been unhappily embroiled. The Commission and the Courts have strained to patch

its omissions and to resolve inconsistencies. And, occasionally, a businessman has paid a high tuition in damage suits to learn that its words did not always mean what they seemed to say. As Professor Robbins has observed, it is little wonder that marketing experts have willingly left it to the lawyers.

Now, lawyers know that when a statute is full of ambiguities, enforcement may take either of two directions. The law may become an unenforceable dead-letter. This has happened with the original 1890 Sherman Antitrust Act provision that all goods produced by an antitrust law violator are to be *contraband* subject to seizure in interstate commerce and condemnation. That Draconian penalty has never been employed. The same fate has overtaken many of the ambiguous state statutes against selling below cost.

On the other hand, with strong public support behind it, an ambiguous law is equally capable of expansion and growth simply because of its textual vagueness. As conditions change, there is room in the generality and ambiguity for new meanings to be interpolated. The Sherman Antitrust Law general prohibitions of monopoly and unreasonable restraints of trade offer a notable example of constantly increasing coverage. The last 10 years' enforcement of the Robinson-Patman Act at least suggests that it may take the same road, particularly in its application in the food industry.

What has also become clear is that the Patman Act has a unique invulnerability to amendment. No matter how it is interpreted, to the outraged protest of one group or another, no matter how many additional, and often even more obscure, amendments are proposed and hotly debated, this Act apparently can resist all Congressional change. Inevitably, the forces sponsoring and opposing any proposed tinkering with its turgid text come into balance. That has happened repeatedly during the past decade.

Perhaps this resistance to substantive amendment derives from the fact that most American businessmen have a deep affection for the Robinson-Patman Act despite the way it so often tangles them up with lawyers and lawsuits and limitations on what they can do. That love is peculiarly

schizoid. As sellers, they want to lean on the Act as a bulwark against giving price concessions or allowances to their customers. As buyers, they still think the law affords them room to get an inside price. As Ed Willkie once said, all that any businessman wants is only a *fair* advantage over a competitor.

If, as some insist, the Robinson-Patman Act can in fact operate to foreclose rugged competition, the abiding affection of many businessmen for the law becomes understandable. In its operation it may protect against the price-cutter, against the competing seller who prefers to "wheel and deal," and against the competitor who can by sheer volume get a better price on raw materials or in buying products for resale.

In any event, the Act is here to stay, it has grown to maturity, it is being more energetically enforced, and in the canning industry a knowledge of its expanding development is an important fact of life.

This morning I shall deal specifically with several of these new interpretations, as they apply to the canning industry in four areas:

1. The sale and pricing of private or buyer label foods.
2. The offering of cooperative advertising and promotional allowances.
3. The right of a canner to change his brokerage contract with his broker when necessary to meet competition.
4. The effect of the new \$5,000 per day civil penalty for violation of a Commission order, and some other prospective changes in administrative enforcement.

PACKER VERSUS PRIVATE OR BUYER LABEL SELLING

For canners the current public and private discussions of the place of packer label versus private label selling have wide-ranging commercial rather than major legal interest. The value to the retail grocer of a packer label, often nationally or regionally advertised, as contrasted with the private buyer or distributor controlled label, is a complicated economic inquiry involving relative margins, rapidity of turnover, comparative shelf-space return, and necessarily relative consumer preference. In the canning industry, with its vast volume of buyer label sales, these are and will continue to be vital business questions.

But they cannot be evaluated wholly without reference to the Robinson-Patman Act. In this area only a foolhardy lawyer would say he knows the answers. The most that can be offered is a roadmap of legal activity—a brief account of the pending complaints, decisions, and appeals—whose crisscrossing and confusion may ultimately be resolved, or perhaps further confounded, by the Supreme Court.

To begin with, the law prohibits price discrimination only in selling

goods of *like grade and quality*. Is one can of food, offered under a widely advertised packer brand label that commands consumer confidence and a rapid retail turnover, legally to be considered of like grade and quality with the same can of food sold unlabeled for the buyer to brand as he elects? Put another way, is relative better salability an element of quality that permits the goods to be considered of different grade and quality and therefore differently priced without reference to the Robinson-Patman Act?

The Trade Commission has uniformly insisted that it is not. If the goods are functionally equivalent—in the case of canned foods if they are of the same commercial grade—the Commission holds that packer and private label selling must run the full gamut of the Robinson-Patman Act. The same can under the packer label or private label must be sold at the same price unless a difference in price is lawfully permitted.

Cost justification—resulting from differences in the cost of manufacture, sale, or delivery—is one of the principal, and I must add one of the most difficult, legal defenses. Cost differences may, although they need not, be lawfully reflected in price. This rule is easy to state, but phenomenally difficult to apply in the dynamics of marketing.

As between packer and private label sales, two elements of cost offer reasonably clear justification. The first is the per case or per dozen cost of your own *advertising* of your own label. Your price for private label goods may clearly be lower by that amount. (But as we shall see, where cooperative advertising allowances, as distinguished from price reductions, are involved, the rules may be different, and cost justification may become legally unavailable.)

The other readily measurable and proper cost difference is reflected in the conventional label allowance. You may, in private label selling, grant a label allowance reflecting your saving in label cost and the process of labeling. But you cannot justify a label allowance beyond your own costs for your own labels and the job of labeling. An excessive label allowance may be held to be an indirect price discrimination.

Apart from these two minor questions, there are, however, two pending proceedings that acutely expose the bite of the Robinson-Patman Act on a packer's freedom to price his own advertised brand either in relationship to the price at which he sells the same goods for private label or as against the same goods offered by a local competitor.

They illustrate both sides of the coin: What will be the burden on the packer who sells his private label goods at substantially lower prices than his own brand? And how far may

a seller of a well-advertised national brand, that ordinarily commands a price premium, go in reducing his price to meet local competition from less well-known brands customarily selling at lower prices?

Last April the Federal Trade Commission filed a complaint against the Borden Company charging price discrimination because that company sells its well-advertised Borden label evaporated milk at substantially higher prices than it sells the same evaporated milk for buyer label.

The interesting thing is how narrowly the Commission complaint is worded. Borden sells its own branded canned milk on a uniform delivered one-price basis throughout the country. Obviously, it must be averaging the costs of outbound freight from its various plants. In selling for private label, however, Borden sells on an f.o.b. plant basis and the buyer pays the freight. The complaint discloses differences as wide as 20 percent between the f.o.b. buyer label price and the *delivered* Borden label price, and then recites that only a small portion of that difference is attributable to the cost of delivery.

Borden insists that the lower f.o.b. price for buyer label sales is cost justified because of differences in the cost of manufacture and sale as well as delivery.

As you know, the burden of proving cost justification rests with the seller whose prices are challenged in a Commission complaint. In the trial of this Borden complaint, it may be necessary for this large national packer of evaporated milk to present detailed cost data for each of its evaporated milk plants located in eight states, and its entire nationwide freight picture in the sale of its own brand.

The Borden case thus makes it clear that where a national packer also engages in private brand selling, and his price differentials are challenged, unless he has another defense, he must be in a position to assume this onerous burden of proving detailed cost differentials in manufacture, sale, and delivery.

Borden, however, also claims that in selling its private label milk f.o.b. at these low prices it was only meeting competition in good faith.

Logically, if the same goods sold under an advertised packer label and for buyer label must be considered to be of like grade and quality, one must conclude that they are considered competitive goods for the purposes of the Act. If any differences in price between packer and private label sales must be cost justified, then you must logically assume that there can be no price discrimination where goods under an advertised brand are sold by the same packer for the same price as are the same private label goods. For example, there could be no price discrimination if Borden sold its

own Borden brand and its private label canned milk at the same price.

Now, let us turn the problem around. If the relative consumer acceptance of one brand as against another must be disregarded for pricing purposes—on the theory that the goods are of like grade and quality, and are competitive with each other—you might assume that a packer selling an advertised brand would be wholly free to reduce his price to meet the competition of like goods offered under a private label or some less well known brand by another seller.

But the Federal Trade Commission does not agree. In the now famous *Anheuser-Busch* case, presently pending in the Supreme Court, Anheuser-Busch sold its nationally advertised and nationally distributed Budweiser beer at a premium over most local or regional beers. It did not sell its Budweiser beer at the same price or obtain the same premium in every market, but in all markets it sold Budweiser above the price of the local unadvertised or less well known beers.

Early in 1954, Anheuser-Busch put into effect a deep price cut in its own home market of St. Louis to meet the price of local beers. It did not cut its price in other markets, but continued to sell Budweiser at the prevailing premium prices. It gained some ground in St. Louis at the expense of one local competitor even though others were not seriously affected.

The Commission brought a complaint charging that by reducing its Budweiser brand price in St. Louis alone, so as to meet but not to beat the price of the beer of local competitors in that market, Anheuser-Busch was unlawfully discriminating in price because it was injuring what is called primary level competition, that is, the competition among competing sellers.

Anheuser-Busch defended on the ground that it was only meeting competition. The Federal Trade Commission ruled that Anheuser-Busch was *beating*, rather than *meeting*, competition because traditionally Budweiser has been sold at a premium price over the local brands in St. Louis. The Commission insisted that whenever the seller of a premium advertised brand drops his price in one market so as to narrow the premium, or eliminate it, and thereby lessens the position of his local competitors in that market, he violates the Act.

Accordingly, the Trade Commission entered an extraordinary order which prohibited Anheuser-Busch from reducing its price in any market in which it competed unless it reduced its price in all markets by the same percentage.

The Court of Appeals reversed the Commission but went off on a tangent of its own. It held that the Act did not cover price differences between customers in different markets. The

Court said that since all of the buyers in the St. Louis market paid the same price—and buyers in other markets each paid the same price in those markets—there was no injury to competition. On this basis, the Court of Appeals never had to consider whether the packer of a nationally advertised brand could or could not lower his price in a particular market to meet the competition of less well known brands. The case is pending in the Supreme Court and will be argued next month.

If the Commission order in *Anheuser-Busch* is sustained, the problems of the seller of advertised brands who sells in many markets may become complicated. Where he sells at different prices in different markets, his freedom to compete may be restricted. In *Anheuser-Busch* there was no charge of selling below cost, and no direct charge of predatory pricing. For it is well settled that where a seller who operates in many markets reduces his prices in one market for the demonstrated purpose of driving his competitors out of business, the Robinson-Patman Act and possibly the Sherman Act are violated.

But here the Commission said that intent to injure a competitor is immaterial, as is selling below cost. Nor is the local competitor undercut in price; instead he is simply met, or the premium for the better advertised brand is simply narrowed. Nevertheless, the national seller is frozen to the existing premiums he has gotten in each market. If he loses ground in one market, he cannot reduce his premium to meet competition in that market unless he proportionally reduces his price everywhere.

The net result of the looming interpretations in both *Borden* and *Anheuser-Busch* seem incongruous.

Because advertised brand and unadvertised private label goods are considered to be the same under the Patman Act, the packer of an advertised brand may not charge a lower price for private label goods than he charges for his advertised brand unless he can show cost justification, or unless he can prove that he is meeting competition in selling the private label goods at a lower price than his own advertised brand.

Yet as against his competitors on his advertised brand, the shoe is on the other foot. If he has succeeded in establishing a price premium for his advertised brand, he cannot reduce or eliminate that premium in one market—even to meet competition—unless he reduces or eliminates his premium in every market.

You must decide whether that makes commercial sense.

But do not let your lawyer say, "They can't do that to you," unless and until the Supreme Court next spring tells us that they cannot.

In any event, the *Anheuser-Busch* doctrine—termed by one economist, "Territorial Discrimination Without Industry-Wide Formula"—is thought by some to reduce price competition, rather than to curb price discrimination, and therefore to be in conflict with basic antitrust policy. Its application to canned foods is obvious—and, if judicially sustained by the Supreme Court, a significant portent for the future.

Before leaving it, however, let me make clear that neither the *Borden* complaint nor the *Anheuser-Busch* order have anything to do with freight equalization as a form of meeting competition. In all of the controversy about meeting competition, or arguments about the proposals to change the law, it has always been recognized that meeting the freight advantage of a competitor located nearer to the customer is legitimate. That is a different kind of "meeting competition."

COOPERATIVE ADVERTISING AND PROMOTIONAL ALLOWANCES

Turning now to the field of cooperative advertising and promotional allowances, we find another area of churning legal change and expansion.

You may remember that under two separate provisions of the Robinson-Patman Act, the granting of cooperative or promotional advertising allowances in money, or the providing of services to a customer, was made specifically unlawful unless comparable allowances or services were granted on proportionally equal terms to all competing purchasers.

Over the past decade some of the rules in this area have become crystallized. The requirement of availability on proportionally equal terms applies only to goods of like grade and quality and only during the period in which the program is in effect. A canner may therefore elect to offer cooperative advertising on peas and not on corn. He may do so on one size container and not on another. Indeed, he may elect to limit his advertising program to his own packer brand goods and not to extend it to private label customers so long as the latter are free to buy the advertised brand and participate in the program.

Moreover, it is now settled that the rule of proportional availability extends only to customers who compete with each other. You may therefore offer a program in one market, such as San Francisco, and not in another, such as New York.

But availability means that the customer must have reasonable knowledge of the offer. There has been built into the Act a requirement that the seller is obligated in some reasonable way to make the existence of the cooperative advertising or promotional program known to all of his customers who are legally entitled to

participate. In addition, a plan cannot be so tailored that no part of it is within the reach of the smaller customers.

As to those who buy from a wholesaler rather than direct, the law is less clear. In the Commission view, as I understand it, the law does not require that the program be offered to those who buy from distributors, rather than direct, unless there is some relationship between the manufacturer and the indirect retailer of his goods. That relationship may be found where the products are Fair Traded, which is not often the case in the food industry, or where the manufacturer's missionary men call directly on the retailer, or where so-called drop shipments are employed.

The most important difference between the price discrimination prohibition and the provisions controlling cooperative advertising and promotional allowances is that a seller cannot defend an allowance given only to some customers on the ground that competition was not injured; nor can he justify non-proportionalized allowances on the basis of the relative cost of selling to different customers. This was made clear by the Supreme Court only last year.

Perhaps even more important, you cannot, in the Commission's view, grant an advertising allowance to one customer without making it proportionally available to all other competing customers, and then defend on the basis that you are doing so to meet competition. You can meet competition either with a competitor's lower price or with a service he gives, by reducing your price or giving a like service, but you cannot meet his competition on a promotional allowance unless you proportionally extend your program to all competing customers.

In non-lawyer lingo, the Commission would under this law say that it is lawful to give only one customer some store posters if your competitor was giving that customer some store posters—but that it is unlawful to reimburse the one customer for the cost of the posters even though your competitor were doing so. That may be hard to see, but it is the Commission interpretation of this complicated statute.

Over the last two years there have been a number of new judicial decisions and Commission complaints which raise further questions of major importance in the cooperative advertising and promotion of canned foods.

The first reveals how a seller may violate the promotional allowance section even though he makes no payment at all to any customer. In the *Chain Lightning* cases, the broadcasting companies made a deal with certain grocery chains to give them free radio and television time in return for promotional work in their retail stores. The broadcasters then made

separate contracts with food manufacturers for radio and television time, offering as an inducement the in-store promotions they had previously secured from the retailers in return for free time.

Both the Commission and courts held that the two sets of contracts would be viewed as one, and that even in the absence of any payments to the retail chain stores, the food manufacturer was violating the law in not making a proportionally equivalent allowance available to other customers.

A Commission Hearing Examiner has made a similar ruling in the *Grand Union* case where an independ-



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ent operator of an outdoor advertising sign made a somewhat similar two-way deal with a chain store and national advertisers.

In the *Woman's Day* case a large number of food manufacturers are now heavily engaged in litigation because they bought advertising in *Woman's Day Magazine* which was published by an A & P subsidiary and distributed solely through A & P retail stores. In a private treble damage suit brought by a group of Chicago wholesalers and retailers, it was held that this arrangement was equivalent to giving the A & P an advertising allowance not made proportionally available to other buyers. In this litigation, called a "class suit," almost 300 additional wholesalers and retailers have joined as plaintiffs; and a separate suit has been instituted against 71 other food companies that also had advertised in *Woman's Day*.

These developments add up to making it clear that canners must move with extreme care in participating in any type of program that is spon-

sored by or even remotely connected with a customer. In this area, sensitive caution and ready reference to your own counsel may be good insurance.

A final complaint illustrates the nice question as to where the line is to be drawn between price reduction and a promotional allowance. This is not academic because the consequences are so different. A price reduction charged as a discrimination may be defended on the ground that it does not injure competition, is cost justified, or was made in good faith to meet the lower price of a competitor. As we have seen, a cooperative advertising allowance, not made proportionally available, cannot be defended on these grounds.

If a packer affords a 3 percent promotional allowance to his customers located in one market alone, is he offering a cooperative advertising allowance, or is he making a price reduction under a misnomer?

So far as I know, the rules for deciding are still quite fuzzy. In a recent speech, Chairman Kintner suggested that the way to tell turns on whether the seller polices what he calls the cooperative advertising allowance. If he does not police what the customer does with the money, the suggestion is that what is given is to be viewed as a price reduction. If he does police, and requires proof of performance, the situation is evaluated as a promotional allowance.

But do not assume that this is what will always be charged in Commission complaints. In a recent complaint against a Northwest canner, it was charged that he had participated in a coupon book promotional scheme by a Portland retailer to whom he had sold 4,000 cases of corn. It was alleged that he had paid the retailer \$350 and reimbursed him for all the coupons actually redeemed. This sounds like a promotional allowance. Nevertheless, the canner was charged both with violating the promotional allowance provisions and also with discriminating in price so as to substantially lessen competition or tend to create a monopoly. Somewhat curiously, other sellers who had participated in the identical coupon scheme of the same retailer were charged with violating only the promotional allowance provision. In administrative enforcement, consistency does not appear to be a necessary virtue.

Once again the caution seems plain that if you want to reduce a price, you ought to call it a price reduction and not something else. If you want to engage in cooperative advertising or promotional programs, they ought to be properly identified and made available in accordance with the rules.

UNLAWFUL BROKERAGE

As to brokerage, you may recall that last year both Governor Anderson and I talked about the *Broch* case

which concerned the legality of an apple packer making an arrangement with his broker for a smaller commission to be paid on a single transaction in which the broker was authorized to lower a price in order to meet competition. The Supreme Court has now agreed to review this decision, and oral argument began last week. May I refresh your recollection about what happened.

A Canadian apple packer announced a price of \$1.30 per gallon can of concentrate. A large buyer told Broch, the seller's broker, that he would be interested in buying a large volume at \$1.25, a price the buyer said he could obtain from other packers.

When Broch, the broker, reported this to his canner principal, the canner told him that he could not afford to sell at the lower price unless the broker was willing to take a commission on that sale of less than the regular 5 percent. The broker agreed to take a 3 percent commission on this unusually large order, and the canner told him to make the sale at the lower price to meet competition.

There was no claim that the buyer knew anything about the arrangements between the seller and the independent broker. There was no direct payment from Broch, the seller's broker, to the buyer.

The Commission nevertheless held that in these circumstances the brokerage provision was violated because in effect Broch, the seller's broker, had paid part of his "standard" commission to the buyer. The Court of Appeals reversed on the ground that the law did not cover payments by the seller's broker.

In the Supreme Court, the Federal Trade Commission is urging that where a canner has to lower his price to meet competition, he cannot make a new commission contract with his broker—even though the buyer knows nothing about and has nothing to do with the arrangements between the canner and his broker.

The Commission argues that it makes no difference that the buyer has no knowledge. Underlying its argument is the expressed apprehension that if the canner and broker, as between themselves and without the knowledge of the buyer, arrange for a lower commission in a particular transaction, a large buyer might thereby obtain a lower price. I should add that the National Retail Grocers Association has filed an *amicus* brief making a similar argument against what it calls a diversion of brokerage to favor large buyers.

Many lawyers insist that there are two difficulties with that argument. In the first place, if a canner may not lawfully make different commission arrangements with his broker from time to time, it will obviously tend to freeze brokerage rates, and in many instances may prevent a

canner from effectively competing in the market. Those effects apparently do not bother the Federal Trade Commission because it has previously brought several other cases against canners on the same facts and obtained consent cease and desist orders.

In the second place, if the canner's reduced price in the particular transaction is an unlawful price discrimination—if he cannot sustain the burden of showing that he is meeting competition in good faith—it seems plain that the canner is guilty of violating the price discrimination provision, and not the brokerage provision. Of course in the *Broch* case the canner-principal was a Canadian company which the Commission could not reach. But that is no reason for confusing the pricing conduct of a canner with his private commission arrangements with his broker.

The importance of the distinction was pointedly illustrated by a decision of the Court of Appeals in Boston last month in dismissing a treble damage suit by a broker against his principal. In that case a seller of plastic cups decided to eliminate the use of brokers and to sell direct. He reduced his prices. His former broker charged that by so doing he was giving his customers a discount in lieu of brokerage, and brought suit first in New Jersey and later in Boston. Once again it was clear that the buyers had no part in the seller's conclusion to sell direct rather than through a broker.

Both lower courts threw the case out. In an illuminating opinion, the Court of Appeals delineated the cardinal difference between a payment or allowance by a seller to a buyer in lieu of brokerage, and the contractual arrangements between the seller and his broker. Indeed, the appellate court went further and said that even if the seller were in fact unlawfully discriminating in price among his direct customers, that had nothing to do with whether brokerage was or was not being passed on to a buyer.

In effect, the Court held that the business relationships between broker and principal were unrelated to the principal's pricing to his customers, provided of course that the customer is not involved in the reduction or elimination of brokerage.

It is of course true that a seller may by his pattern of selling plainly demonstrate that he is in effect granting an allowance in lieu of brokerage. If he changes his price from day to day, selling only through brokers when his price is up, and only to direct accounts when his price is down, that pricing conduct may disclose that he is illegally giving an allowance in lieu of brokerage.

But the point is that it is the seller's conduct in pricing that reveals the violation—and not any private commission arrangement he had made

with the various brokers he may use. Necessarily, any canner who at the same time makes sales both through brokers to some buyers and directly to other buyers must be carefully responsive to the requirements of both the price discrimination and brokerage provisions.

The implications of the final decision by the Supreme Court in the *Broch* case may be far reaching for both canners and brokers alike. Each will await that decision with acute interest. Many are hopeful that nothing will be done or said that will disturb the freedom of both broker and canner to make their own private contract arrangements to the best advantage of both.

NEW PROCEDURES AND PENALTIES

Last July after many years of urging, Congress put vastly sharper teeth into the enforcement provisions applying to the Robinson-Patman Act. Because of the law's ubiquitous application to the merchandising of canned foods, every canner ought to understand the change.

The old procedure was often referred to as having two bites at the cherry. If the Commission found that a seller had violated the law, it ordered him to cease and desist. If he failed to obey, the Commission had to go to court, prove that he had violated its order, and get a court injunction to back up the Commission order. If there was a second violation, the seller could then be punished for contempt of court.

This meant that if the Commission charged violation of its order, there was always the opportunity for considerable discussion, and perhaps even argument, as to the meaning of the order without any risk of penalty.

Under the changes made by Congress last July, however, all Commission cease and desist orders become automatically final if not appealed to the courts within 60 days. A violation of the order is now punishable by a \$5,000 civil penalty. Even more important, each day of continuing violation may be a separate offense.

When one considers the sweep and the ambiguity of Commission orders under the Robinson-Patman Act, and the uncertainty of the law as to the scope of the defenses of cost justification and meeting competition that are automatically built into each order, it cannot be challenged that this change is fairly drastic.

The Commission, however, continues to be a quasi-judicial administrative agency, ordained both by Congress and judicial decision with expertise in the economic realities of marketing. There are many who believe that despite the penalties now provided, to be collected in civil suits by the Department of Justice upon its recommendation, the Commission

will not suddenly turn into a ruthless and automatic collector of cumulative penalties.

Instead, the exercise of reasonable administrative discretion in the interpretation and enforcement of Commission cease and desist orders is expected by many to be its continued course. For as Congressman Meader pointed out, it will now be possible for a respondent to run up a terrific bill in disputing the correctness of any view taken by the Commission as to the meaning of an order. But for those who plainly and flagrantly violate a cease and desist order, the burden of cumulative \$5,000 per day penalties will remain a real hazard.

Both the ambiguity of Commission orders under the Robinson-Patman Act and these potential cumulative penalties bear heavily on an unresolved legal question as to whether this change is retroactive. Unfortunately, there is much ambiguity in the amending bill that Congress passed. It is far from clear whether the old system of court enforcement or the new system of penalties will apply to the hundreds of outstanding cease and desist orders issued during the last 20 years, the majority of them against canners.

In an effort to make its position publicly clear, the Trade Commission last July announced that in its view the change was retroactive and applied to all outstanding orders. As an act of administrative grace, it offered to allow everyone subject to an outstanding order 60 days within which to appeal.

That offer was accepted in very few instances. Indeed, it would have been fairly difficult to appeal on an old record reflecting market conditions that no longer were meaningful. Instead, there are a number of cases pending which in one way or another challenge the Commission insistence that the penalty change is retroactive.

Of course, when and if the Commission recommends penalty actions under these outstanding orders, the question may be finally resolved. In the meantime it has been suggested that it ought not bring penalty actions under old orders until these pending initial challenges are determined.

That is perhaps a hollow reed upon which to lean. It may well be that some canner, who has perhaps forgotten all about a very old cease and desist order, may find himself in the position of the defendant who when charged with the statutory rape of a 17-year-old girl, after the age of consent had been raised from 16 to 18, unsuccessfully pleaded that he was still operating under the old law.

However, not all of the clouds on the enforcement horizon are dark. About a month ago Chairman Kintner announced that he had appointed in the Federal Trade Commission a Task Force to consider new and better

methods of helping businessmen comply with the Robinson-Patman Act. The possibility of disposing of unwitting violations by stipulation, rather than by an order carrying cumulative penalties, will undoubtedly be considered. The possibility of some intervening administrative procedure, prior to the institution of a civil suit for cumulative penalties, ought also to be seriously evaluated.

Finally, the Commission has recently shown an increasing awareness of the undesirability of bringing complaints against a single seller who may be only following an established pattern of selling in an industry. The Commission has instead displayed a willingness, where circumstances permit, to bring a series of complaints, or to make its orders effective against similarly situated sellers at the same time, and thus not competitively sacrifice one seller by subjecting him to a cease and desist order while his competitors are not so constrained.

I am hopeful that Chairman Kintner may tell you more about these future possibilities in which his sense of fairness and his broad administrative experience have led him to take the lead.

Marketing, and particularly the merchandising of canned foods remains inescapably a complicated problem, both economically and legally. It continues to command under the Robinson-Patman Act the close and continued scrutiny of the Federal Trade Commission. It constantly invites the attention of Congressional committees as the recent activities of the Roosevelt Subcommittee suggests. It has already resulted in prolonged Congressional investigations into the selling of many other commodities ranging from steel to drugs. Because the concept of free and fair competition has become an article of American political faith, that interest and activity probably reflect what the American people want.

Since everyone here today can testify to the rugged competition that has and continues to prevail in the canning industry, that has contributed along with the industry's productive achievements to making canned foods the best buy in the consumer market basket, I am satisfied that in the long run canners will benefit from effective enforcement of the antitrust laws.

The Federal Trade Commission Looks at the Canning Industry

By Earl W. Kintner,
Chairman,
Federal Trade Commission

I

I am grateful for this opportunity to speak with you on matters of our common concern. The opportunity is a particularly challenging one since I have been preceded by Mr. H. Thomas Austern, your distinguished Chief Counsel, who has earned an enviable reputation as a student and analyst of the Robinson-Patman Act.

In Robinson-Patman Act matters, Tommy Austern need take a backseat to no one—in experience, in familiarity with the Act's complexities, or in imaginative response to the Act's shifting demands upon businessmen. He is also an imaginative and determined advocate for the interests of his clients. These being the facts, I trust you will not expect that the two of us will agree on everything Mr. Austern has said.

Although he permitted me the liberty of seeing a draft of his remarks on paper before I prepared mine, I fear that I am at a disadvantage here—not by way of anything he has said—but because of the inevitable limitations of my official position. A number of the more provocative cases referred to by him are, in one form or another, still in litigation, either before the Commission or before the courts. As

to these, I know you will understand that I must necessarily be circumspect in what I say. This is always an easy evasion for a man who wants to pull his punches, but those of you who know me realize that this is neither my practice nor my intention, and to the extent that I can properly touch upon specifics I shall do so. At the same time, this limitation permits me to offer a few generalized thoughts with respect to the Act and my own philosophy on antitrust and antidis-crimination.

Let me preface my remarks briefly by reciting a few truisms with respect to the legal problems we are discussing today. The Robinson-Patman Act was passed in 1936 as an expansive amendment to the 1914 Clayton Act's general prohibition on price discrimination. Mr. Austern has remarked on what he called "the basic paradox" that a law to curb abuses by buyers was drawn primarily in terms of what a seller may do. Let me take polite issue with this view.

Certainly, one general purpose of the Act was to curb buyer abuses; but I think it fair to say that its purpose was equally to prevent sellers from discriminating among buyers. Thus, the fact that the Commission has proceeded more often against sellers than buyers is hardly inconsistent with the Congressional intent and reflects a view so obvious that it is often overlooked—namely, that since its enact-

ment, the law has probably been violated more often by sellers than buyers. If buyer abuse was a critical Congressional concern in 1936, the emphasis on seller practices in the Act represents an astute act of legislative clairvoyance. For, as our economy has evolved in the years since 1936, seller abuses rather than buyer abuses have increasingly required curbing.

This is neither to say that buyer abuses do not exist nor that the Commission is inattentive to them. It is to reject the essentially archaic view that focusing the Act on sellers as well as on buyers is a misuse of legislative authority. The Robinson-Patman amendment in 1936 added buyer proscriptions to a statute which had theretofore been limited exclusively to seller practices, but, at the same time, strengthened rather than de-emphasized the Act's prohibitions on seller activities. This dual scope, I submit, was a practical legislative response to the economic uncertainties of the future.

II

Passed in 1936, following the Commission's investigation of chain stores, the Robinson-Patman Act, among other things, amended Section 2 of the Clayton Act of 1914.

As I have stated before, I believe that two of the Act's primary objectives were and are (1) to prevent unscrupulous buyers from abusing their economic power by exacting from suppliers price and other forms of discriminatory concessions, and (2) to prevent unscrupulous suppliers from attempting to gain an unfair advantage over their competitors by discriminating among competing buyers.

Section 2 now contains six subdivisions. Section 2(a) is directed at injurious price discriminations in commerce on commodities of like grade and quality which cannot be justified under the provisos therein, including cost justification, or defended by a good faith meeting of lawful competition, as spelled out in Section 2(b). Section 2(c) deals with direct or indirect diversion of brokerage payments usually in the food industry from suppliers or their agents to favored buyers. Section 2(d) deals with payments or allowances by the seller to the buyer for promotional services, and requires them to be made available on proportionally equal terms to all competing customers. Section 2(e) deals with the furnishing by the seller of services to the buyer, requiring them also to be made available to all competing buyers on proportionally equal terms. Section 2(f) makes it unlawful to knowingly induce or receive a price discrimination prohibited by Section 2(a).

Despite difficulties of marginal interpretations of the Robinson-Patman Act's provisions and their application to complex and constantly changing business situations, the basic concepts

of the Act can be understood by any businessman who sincerely desires to comply with the legal and moral requirements of the Act. Basically, the Act requires a standard of fairness to all and favor to none.

For much of its history, particularly since the passage of the Robinson-Patman Act in 1936, the Federal Trade Commission has devoted a major share of its attention to matters in the food industry.

A comprehensive study published just last month, by a former staff official of the Federal Trade Commission, includes a review of some 240 cease and desist orders issued by the Federal Trade Commission before January 1, 1955. The study notes that "of the 148 orders concerned with brokerage, 129, or 87 percent, pertain to [the food industries]." (Corwin D. Edwards, *The Price Discrimination Law*, page 74.) Orders issued under other subsections have been distributed somewhat more widely among different industries, but "57 of a total of 166 have to do with food products."

Our records show that, within the past three years, certain practices of a group of 10 canners of fruits and vegetables were investigated and resulted in the issuing of 4 complaints charging respondents with violation of Sections 2(a), (c), and (d) of the amended Clayton Act. Four of these matters have been closed without further action after investigation. One of this group is still under investigation. In various parts of the country, 8 other canners of fruits and vegetables have been investigated during this period, with the following results:

- 3 complaints issued by the Commission;
- 1 investigation closed by the Commission;
- 2 investigations recommended for closing;
- 1 matter pending in the Bureau of Litigation with a recommendation for a complaint;
- 1 matter currently being investigated.

Within the past three years, some 66 investigations were made into the canned fish industry on both coasts of the United States for possible violations of Section 2. These resulted in the issuance of 29 cease and desist orders prohibiting canners and brokers from violating Section 2(c) or passing on brokerage to customers in the form of discriminatory prices.

During the same period, investigations were conducted for compliance with outstanding cease and desist orders. Proceedings have been held in the Circuit Courts of Appeals on two such matters, in one of which the respondent was found guilty of criminal contempt.

To recapitulate, Robinson-Patman investigations during the past three years have concerned some 99 canners

or brokers in canned foods. Twenty-nine cease and desist orders have been issued and 7 complaints are in the process of being heard by hearing examiners. Out of this total number, 14 matters are under active investigation.

III

PROMOTIONAL PROGRAMS

With several of Mr. Austern's statements, I can wholeheartedly agree. In reference to promotional allowances, his advice that "sensitive caution and ready reference to your own counsel may be good insurance" seems completely sound to me. Further, he suggests that "if you want to engage in cooperative advertising or promotional programs, they ought to be properly identified and made available in accordance with the rules." This is, indeed, good advice.

Mr. Austern has commented on a recent speech in which I suggested that the distinction between a bona fide advertising allowance and a disguised price reduction turns on whether a seller "polices" his advertising program. The essential question is simply whether or not the payment is, in fact, an allowance for advertising purposes or whether it is a bogus payment or rebate which actually amounts to a price reduction. The mere granting of a payment denominated as an "advertising allowance" is insufficient. There must be an agreed-on plan for the use of these funds which, in addition to being made proportionally available to all competing customers, permits the seller to determine that the allowance has actually been used for the stated advertising purpose. In other words, the administration of the plan should contemplate proof of performance on the part of the buyer as a prerequisite to his collecting the allowance. Otherwise, failure to require proof of performance may foster deception or actual non-performance by the buyer and may dictate a legal conclusion that the "allowance" was simply a dodge to give a price reduction to a favored customer.

Let's take some specific examples. Suppose a distributor comes to you, a canner, and says, "We are going to have a special promotion in our stores. As an important customer of yours, we want you to cooperate by sending us a check for X dollars." You should immediately consider the Robinson-Patman aspects of this situation. If you make a payment such as this to a distributor, the chances are that you are giving him an illegal price discrimination. By accepting a payment of this kind it is likely that the distributor is also violating the Act. If the arrangement under which you, the canner, made this promotional payment is not actually made available on proportionally equal terms to all competing customers, your sense of fairness ought to trouble you; and if this

isn't so, perhaps the Commission will. Remember, "available" means actually notifying competing customers of availability. Otherwise, your granting the allowance may be a violation of Section 2(d) of the Robinson-Patman Act.

Suppose a distributor says to you, "Give us \$1,000 and we will stock your brand for six months." Again, your suspicions ought to be aroused. You must consider any such payments in the light of the Robinson-Patman Act.

It should be emphasized that payments by a seller to a buyer do not become advertising or promotional allowances simply by calling them such. If you say to your distributor, either in response to a request from him or on your own initiative, "Here's \$10,000 to use for advertising" or "I'll give you 3 percent off the purchase price of everything you buy from me to use for advertising in the next six months," the mere granting of these allowances with some vague statement that they are to be used for advertising does not make them "advertising allowances." There must be an agreed-on plan for the use of these funds which permits some check on the actual use of the allowance for the stated purpose, and the plan must be made available on proportionally equal terms to all competing customers. Otherwise, whatever you call it, careful application of the law's requirements may dictate the conclusion that your "allowance" was simply a dodge to give a price discrimination to a favored customer.

Now both you and I know only too well that the great majority of the illegal discriminations in the food industry are considered by the manufacturers and distributors involved as the wrong way of doing business. Your conscience and your common sense tell you this. Let us not kid each other. The Act may be complicated, but many violations are clear to all parties concerned. You may, and probably do, attempt to rationalize your position into a feeling of helplessness on the basis that your competitors are doing the same thing, but just the same you know it is wrong.

IV

PACKER V. PRIVATE LABEL SELLING

With some of Mr. Austern's interpretations and analysis I am obliged to disagree.

Mr. Austern has analyzed in depth the problems of packer versus private label selling. Necessarily, since the two cases with which he has dealt at length—the *Borden* and *Anheuser-Busch* cases—are still in litigation, I must approach this question somewhat obliquely. I am aware of the concern of your industry with these problems and perhaps a few general remarks will be of assistance to you. Let me say in passing that while the *Anheuser-Busch* case clearly raises rele-

vant problems in this area, I am not sure that it poses the exact problem with which you are basically concerned: the extent to which you may engage in differential pricing of the same goods packed under your own label or under the buyers' private label. *Anheuser-Busch* does not directly involve this question, since no challenge was made to the prices at which *Anheuser-Busch* sold labeled beers of like grade and quality under different labels. The question involved there was the propriety of selling one brand of beer (*Budweiser*) at different prices in different markets. Thus, the meeting competition question in *Anheuser-Busch* clearly is different in theory from that which Mr. Austern



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says is raised in *Borden* and I see no inconsistency in this regard between the two cases.

While Mr. Austern has not reached this conclusion in absolute terms, I think it fair to say that the substance of his conclusion is that you must price your packer label products and private label products of like grade and quality at the same level except to the extent that you are able to cost-justify price differentials—and this, concededly, is a difficult task.

I gather, however, that he is concerned about the onerous burden of sustaining price differentials on private label products on a cost basis. I could hardly disagree that this has been a difficult burden for respondents to sustain in past litigated cases. However, it seems to me that there is one aspect of this problem which may be overlooked.

The existence or non-existence of competitive injury is a critical factor in any determination that price differentials for private label products are

illegal, quite apart from whether those differentials are cost justified. Where products are of the same physical characteristics, the question whether they are of like grade and quality because one is a "premium product," i.e., sold under packer's own brand and the other is a "non-premium product," i.e., sold under a private label, is only one side of the coin. Even if, for technical reasons, they are held to be of like grade and quality, it would seem that their relative public acceptance, the price which the consumers will pay for products when sold in competition with each other, the actual price differential which exists as a matter of competitive economics at the various levels of distribution, are all relevant considerations in resolving the question whether or not any competitive injury has resulted or may result from the differential pricing, within the cognizance of the Act.

V

PRICE DISCRIMINATION—SELLER RESPONSIBILITY

I cannot reemphasize too often what I have attempted to state as the dual objective of the Robinson-Patman prohibitions. It is true that buyers bear a large share of legal and moral responsibility under the law. But we must be careful not to minimize the responsibility on sellers to observe fairness in pricing. The law applies to sellers as well as buyers, and to small as well as large. And not all packers are small. If an Indiana or Wisconsin packer delivers No. 303 standard corn in Kentucky for \$1.08 per dozen when it costs more to pack the corn, there may be something wrong and some discrimination in price which will tend to destroy competition, for which the packer is partly or entirely to blame. Price discrimination by large packers which tends to drive the smaller to the wall was prohibited by the Clayton Act even before the Robinson-Patman amendments and has been carried into the present law.

Mr. Austern's quarrel with the Commission's position in the *Anheuser-Busch* case may stem from a basic misconception of the Commission's application of the law of area price discrimination to the particulars of the St. Louis market. He states: "The Commission insisted that whenever the seller of a premium advertised brand drops his price so as to narrow the premium, or eliminate it, and thereby lessens the position of his local competitors in any market, he violates the Act." And, "Nevertheless, the national seller is frozen to the existing premiums he has gotten in each market. If he loses ground in one market, he cannot reduce his premium to meet competition in that market unless he proportionally reduces his price everywhere."

These statements do not accurately describe the Commission's position.

There is no direct relationship between the problem disclosed in the *Anheuser-Busch* proceeding and the problems of canners who pack under two distinct labels—one an advertised premium label, the other a lesser-known private label. The discrimination charged by the Commission in *Anheuser-Busch* is not related to the fact that Budweiser happened to be, and historically was, sold at premium prices throughout the nation. Stated simply, the case concerns the activity of the nation's leading seller of beer in lowering its price in one specific area while maintaining its prices in all other areas. This situation was described by the hearing examiner who heard all the evidence as "the classic regional price discrimination."

Anheuser-Busch sold Budweiser at different prices in different markets. These different prices, in and of themselves, were not the subject of the Commission's complaint. The Commission was confronted with the lowering of the price in one area while maintaining prices in all other areas, albeit the maintained prices might be different prices. This reflects the Commission's consistent position that different prices in different markets may produce price discriminations but they become unlawful only if and when the necessary competitive effect can be demonstrated in the absence of any applicable statutory defense.

The concept of premium prices is inserted in the *Anheuser-Busch* matter only upon consideration of the respondent's proposed Section 2(b) defense. It becomes significant because the Supreme Court has recognized 2(b) defense as a defensive reaction by the seller to competition in any particular market. Thus a seller, to defend itself against the charge of territorial price discrimination, must not only demonstrate that it is meeting a competitor's lower price to protect itself but also that it did this in "good faith." If a seller of a premium-priced, consumer-accepted product can maintain itself and in fact demonstrate an increasing market share on the basis of those prices, how can it be said that any lowering of the price can be a defensive measure to protect that particular market share? That is the factual position of *Anheuser-Busch*—a fact that a premium price was completely eliminated is accidental.

The Commission is not attempting in the *Anheuser-Busch* proceeding to freeze existing premium prices in any market. Indeed, the Commission has no authority to direct any seller, whether offering a premium-priced product or not, to sell at any given price in any market. But the Commission is concerned, as the Robinson-

Patman Act directs that it be, that the nation's leading seller may lower its price in a market in which it was expanding saleswise to the competitive disruption of that market. The Commission is not attempting to unreasonably restrict Anheuser-Busch's freedom to compete but does insist that Anheuser-Busch must compete fairly.

VI

BROKERAGE

Mr. Austern apparently disagrees with the *Broch* case on the grounds that if a canner may not lawfully make different commission arrangements with his broker from time to time, it will tend to freeze brokerage rates, and in many instances prevent a canner from effectively competing in the market.

Mr. Austern's concern about the Commission's position in the *Broch* case stems from the basic premise that brokerage commissions are being frozen to the extent that sellers will be prevented from competing effectively. He further comments that the Commission is "confusing the pricing conduct of a canner with his private commission arrangements with his broker." But this is a failure to fully comprehend the Commission's position—that a reduction in price under certain circumstances may reflect an allowance in lieu of brokerage.

The *Broch* proceeding, in its present posture, presents two points—(1) whether Section 2(c) of the Clayton Act applies to a seller's broker, and (2) whether a broker pays part of his commission, or an allowance in lieu thereof, to a buyer, when the broker's principal sells to a buyer at a reduced price, which the seller granted, as the broker knew, because of the broker's agreement to accept a reduced brokerage commission on sales to the favored buyer. The knowledge of the buyer is not an issue in the *Broch* proceeding.

Mr. Austern's argument that the view of the Commission, if upheld, would tend to freeze brokerage rates appears unfounded. This case does not touch upon the rates for brokers, as such. It strikes at the selective lowering of the rate for the purpose of passing on the amount to a favored buyer. Whether or not a seller can effectively compete involves many considerations aside from that in the ruling of the case. It may be that some sellers cannot compete effectively unless they discriminate in price in favor of large buyers, and yet the price discrimination would not be permitted for such a reason. Nor is this reason justification for the passing on of brokerage.

Mr. Austern overlooks the very heart of the *Broch* proceeding. The Commission does not believe that sellers and brokers cannot make "different commission arrangements . . . from time to time" but the Commission is concerned that such arrange-

ments may result in the systematic preference of one buyer over another. It must be remembered that the 50-50 deal of the *Broch* case was done for the buyer Smucker alone and for no one else. On all other sales the agreed-upon brokerage was maintained. Thus, we have a lower price dependent upon a broker's participation in the preferential treatment. This is the purport of the *Broch* proceeding and nothing more.

VII

For more than 20 years the Federal Trade Commission had recommended to the Congress that cease-and-desist orders issued under the authority of the Clayton Act be given the same "finality" which Congress gave to Federal Trade Commission Act orders by passage of the Wheeler-Lea Amendments in 1938. In each of his last four Annual Economic Reports, the President has proposed that legislation make cease-and-desist orders issued by the Federal Trade Commission for violations of the Clayton Act final unless appealed to the courts. Having noted that "the vitality of our economic system depends in large part on vigorous competition, which would be enhanced by certain improvements in our antitrust laws," the President urged Congress to act favorably on this proposal. This, the Congress has now done. Under the leadership of Senator Sparkman and Congressman Celler, Congress passed S. 726, an Act "To amend Section 11 of the Clayton Act to provide for the more expeditious enforcement of cease-and-desist orders issued thereunder and for other purposes," which as Public Law 86-107 was approved by the President on July 23, 1959.

Section 1 of the Act amends Section 11 of the Clayton Act to provide that orders to cease and desist from violations of the Clayton Act shall become "final" under certain conditions, and that, after any such order has become final, subsequent violations shall be subject to a civil action for civil penalty of not more than \$5,000 for each violation. Section 2 of the Act states: "The amendments made by Section 1 shall have no application to any proceeding initiated before the date of enactment of this Act under the third or fourth paragraphs of Section 11 of the (Clayton) Act. . . . Each such proceeding shall be governed by the provisions of such Section as they existed on the day preceding the date of enactment of this Act."

Passage of this Act presented the Commission immediately with a question of interpretation, since the statement of applicability in Section 2 makes no affirmative statement concerning the status of outstanding orders. The Section states that the old provisions of Section 11 of the Clayton Act shall apply to "any proceeding initiated before the date of

enactment of this Act under the third or fourth paragraph" of Section 11 of the Clayton Act, but does not say which provisions shall govern the enforcement of outstanding orders in those cases in which court proceedings have not been initiated. In an effort to make its own interpretation known as quickly and as widely as possible, the Commission issued a press release on July 28, 1959, a copy of which was mailed to the last known address of every individual and corporate respondent subject to outstanding orders under the Clayton Act, which stated: "Respondents to outstanding orders will have 60 days from the date of enactment, July 23, 1959, within which to petition for court review, and in the event court review proceedings are not instituted, such orders will become final upon the expiration of that period."

The question of whether these new penalty provisions apply to old orders is currently being litigated in the courts; and since I am a personal defendant, along with my fellow Commissioners, in one of these suits, I think it the better part of valor to refrain from any comment on how these cases will be decided. I do find myself, however, somewhat unsympathetic with Mr. Austern's hypothetical respondent "who has perhaps forgotten about a very old cease-and-desist order." I would certainly doubt that any client of Mr. Austern's would ever be permitted to forget about an old cease-and-desist order; and it has been my experience that respondents generally are acutely conscious of the Commission's hand on their shoulder once an order has been issued.

Mr. Austern's statutory rape story is good for a chuckle but it is logically fallacious. In either case—under the old law or the new law—the same substantive law is violated (the Robinson-Patman Act). It is only the penalties for violation which have been changed.

A more apt story would be the one about the defendant who, when charged with the statutory rape of a 17-year old girl—after the penalty had been increased six months to a year—explained that he figured it was worth it under the old law but not under the new.

The added teeth in the law will require ever and more careful drafting of Commission orders, the responsibility for which must be shared in some part by counsel for both sides. Of course, in the enforcement of its orders the Commission will act with judgment and discretion, but this should not be interpreted to mean that it will take a casual attitude toward failure to comply with Commission orders.

Still another difficult problem of enforcement policy which the Commission must consider is that of fairness among the competitors in industries in

which all of the sellers or many of them are discriminating among their customers. This problem was dramatically presented as to automotive replacement parts in the *Niehoff* case. *Federal Trade Commission v. C. E. Niehoff & Co.*, 355 U.S. 941 (1958). There the respondent claimed that if an order were issued against it before orders were issued against its competitors, it would be forced out of business. The Commission found that the respondent was violating Section 2(a) of the Clayton Act and refused to delay the effective date of its order. Upon review, however, the Court of Appeals for the Seventh Circuit agreed with Niehoff. It affirmed the Commission's order but held it in abeyance, presumably pending the determination of other price discrimination cases which were then pending against other members of the automotive replacement parts industry.

I had the privilege of presenting the Commission's case before the Supreme Court, which reversed the Seventh Circuit's decision and directed affirmance of the Commission's order in its entirety. The Court's opinion recognized the broad scope of administrative discretion that Congress has given to the Federal Trade Commission and it pointed out that "in the shaping of its remedies within the framework of regulatory legislation, an agency is called upon to exercise its specialized experienced judgment." The Court noted the variety of factors which would affect this kind of decision, such for example, as: "To what extent is there a relevant industry within which the respondent competes? Is the nature of that competition such as to indicate identical treatment of the entire industry? Does an allegedly illegal practice in fact exist throughout the industry? If so, should all firms in the industry be dealt with in a single proceeding or should they receive individualized treatment? It concluded that "the Commission alone is empowered to develop that enforcement policy best calculated to achieve the ends contemplated by Congress . . ."

Despite the favorable decision in the *Niehoff* case, we at the Commission recognize that the timing of Commission orders in such competitive situations does present a very real problem in many cases. The Supreme Court has held that this is a problem peculiarly within the Commission's special competence. The Commission must examine each such situation and sometimes strike a balance between the conflicting interests of the consuming public and competitors in the industry. This will not always be an easy task, but it is a necessary one.

VIII

Last November, with concurrence of my four colleagues, I appointed a Robinson-Patman Task Force and

asked this staff group to give top priority to seeing whether the Commission can issue useful guides in the Robinson-Patman field. The Task Force Chairman has recently informed me that it appears definitely practicable to issue guides to explain the requirements of the law and promote compliance, that considerable progress has been made in preparing guides covering Sections 2(d) and 2(e) of the Robinson-Patman Act, and that the Task Force will submit proposed guides on these sections to the Commission at an early date.

Two other areas which the Task Force is exploring in detail are those of achieving compliance through means in addition to formal litigation, and of changes which might be made in our handling of Robinson-Patman matters to expedite them in every way possible. Recommendations as to both will soon reach the Commission.

The responsible businessmen buying and selling at this Canners' Convention are presented with a challenge to their sense of responsibility. The Federal Trade Commission is determined to enforce the statutes as the Congress has directed. Limitations of budget and staff and a reasonable amount of human weakness prevent the Commission from being 100 percent effective at all times, but we are doing the best we can, and, with our broad powers of investigation and the mandate which our statutes have given us and the courts have upheld, there is really no place for the purposely ignorant or wilfully defiant violator of the law.

If you are trying in good faith to live up to your individual responsibilities, we will try to help you. If you are not, we shall do our best to demonstrate to you and on you that good business judgment requires keeping a respectful eye on Robinson-Patman requirements.

IX

Here, then, is one man's philosophy of the nature of our economic system and the proper role of government in that system.

Free enterprise means different things to different people. To some it means freedom to receive government subsidies to maintain uneconomic or dying industries. To others it may mean tariff or patent protection. To still others free enterprise means a guaranteed percentage return on capital invested in pine lines, power stations or the like. To those of us in the antitrust and trade regulation field, free enterprise means freedom to start a business, to win markets by better and cheaper products in competition, and to make business decisions independently. It also means freedom to go out of business in the face of stronger but fair competitive effort.

The federal trade regulation agencies can best further the common

goal of maintaining competitive free enterprise by fostering an atmosphere and market conditions in which independent buyers and sellers can freely bid for goods and services honestly represented. We try to do this by applying a little pressure here and there against practices which experience has shown tend to destroy freedom of the market.

I believe that the marketplace should have many competitors rather than the few competitors which characterize monopoly systems of the old world arising under cartelization benevolently protected by the state, or state ownership, or complete control of business. We at the Federal Trade Commission believe in capitalism. We are dedicated to the preservation of capitalism in a free competitive enterprise system—backed up by vigorous enforcement of the antitrust ground rules that guarantee the continued good health of such a system.

I believe that "that government is best which governs least" but that a reasonable amount of governmental regulation of business is absolutely necessary. The honest majority must always be protected from the predatory few. I believe in our antitrust laws and in the policies upon which they are grounded. I am dedicated to an unremitting effort to enforce those laws.

The antitrust laws and their enforcement are here to stay. They are a necessary part of the warp and woof of our economic system. They stabilize and insure the continuation of this system. Their support is a bipartisan matter.

I plead for free competition; I also plead for fair competition. The goal is only half won when the freedom to enter any market is secured. We must also insure that honest dealers and the consuming public are protected from the depredations of the unscrupulous few in order to fulfill the full promise of a free economy.

The Federal Trade Commission has an important role in the battle for fair competition. The Commission's organic act charges it with the duty of eliminating "unfair methods of competition in commerce and unfair or deceptive acts or practices in commerce." We drive ourselves as hard as we can to achieve that goal, but we realize that we cannot do it alone. The Federal Trade Commission is a small agency with an annual budget of less than \$7 million, a total staff of approximately 750 persons, and a multitude of responsibilities in the antitrust and trade regulation field. Fair competition can be achieved only if American businessmen accept a share of the responsibility for achieving it.

The Commission can provide "the menace of legal process" to prevent injury to the public from violations of the laws it administers, but it must continually seek to broaden under-

standing of the law within the business community and encourage voluntary compliance if it is to achieve more than hit-or-miss enforcement. The Commission must constantly improve techniques for securing better cooperation and assistance from business in preventing violations. It must encourage and aid business to comply with the law. It must deserve and receive the active cooperation of business in prosecuting the slick operator who has only contempt for the law and by means of chicanery does not hesitate to exploit those with whom he deals, including the public. We must mobilize our combined efforts to educate members of industry so that they will comprehend the proper scope and meaning of the laws against discriminatory and unfair trade practices. We must seek every opportunity to explain the law in clear, concise language and illustrations familiar to those in business. By these means we can create an attitude of intolerance against violations of the law and develop sentiment highly hostile to those who would seek to evade or violate it. Through the combined power of education, understanding, moral suasion and vigorous prosecution of the irresponsible we can accomplish this task, formidable though it may seem.

We must accomplish this task. People throughout the world look to see whether an economy governed by the principles of free and fair competition can preserve itself against the protectionist and the predator. We can accomplish this task because the vast majority of American businessmen are honest and intelligent citizens, willing to discharge the responsibilities of free men as well as enjoy the privileges of free men. Competition is now on trial. I invite you to take from this meeting a renewed determination to see that it weathers that trial.

QUESTIONS AND ANSWERS

Question: Chairman Kintner, is it better to have what you call price reduction or an advertising allowance?

Chairman Kintner: I would say advertising allowances, particularly co-operative advertising allowances, have been so greatly abused by American business that from my personal standpoint, if I were advising a client, I would have that client explore the possibility of price reduction. So much has been done in the name of advertising allowances. They may be allowances, but very often they are not advertising.

Mr. Sorensen: This question sent up to me is directed to Mr. Kintner. "Do you anticipate closer coordination between the Federal Trade Commission and the Department of Agriculture concerning the activities of those corporations operating meat packing plants?"

Chairman Kintner: I not only anticipate it, but I can tell you that we have been in close cooperation over the past few months. This is one of those statutes that raises many problems. Problems are always raised when there is a split jurisdiction. But where there is a will, there is a way. We think that we and the Department of Agriculture can work together to properly enforce this law in relation to the Congressional intent, and we have been doing so in the past few months.

Question: Chairman Kintner, in your distinction between legal or law and voluntary compliance, do you have any recommendations or experience along the avenue of the power of the Commission to have a voluntary compliance relative to terms of sale setting forth the industry round rule level?

Chairman Kintner: There has been for some time a Commission policy to encourage voluntary compliance with the law. Under my chairmanship, that program has been stepped up. Robinson-Patman rules for several years have been made a part of the trade practice conference rules, of which there are approximately 180 in existence. As I pointed out in my remarks earlier, we are exploring the possibility of issuing guides—written in laymen's language—on what the law means. Our Task Force on Robinson-Patman is exploring that possibility with Sections 2(d) and 2(e) particularly of the Robinson-Patman Act. I am not sure we will be successful in writing guides for 2(a), although sometime we may try. If we are to have a vigorous enforcement program at the Trade Commission, we must at the same time have a very effective educational program, a compliance program which will permit the businessman to engage in a maximum amount of self-regulation and self-discipline and self-policing. I may be naive—this must be about the 50th speech I have made since last June—but I have been trying to sell to American businessmen that their self interest lies in policing themselves rather than waiting for the government to do the job or waiting for Congress to pass more legislation. Make no mistake about it, the Robinson-Patman Act is here to stay, and it is not going to be watered down by amendments. If any legislation is passed, those amendments will be more restrictive on American business. It is to your self interest and the interest of the Trade Commission to see that the present law as it is written now is adhered to so that there will not be any need for other segments of business to go to Congress and say, "It is no good; it is being violated all over the lot; and we need something stronger." I don't think American business needs more restriction in this area. I would prefer compliance with the present law, rather than erosion

of the free market by more restrictive legislation.

Question: Chairman Kintner, what does the term "standard brokerage" mean in FTC language?

Chairman Kintner: That smells about like a matter in a pending case, and I am going to duck it except to say that your counsel, I think, can put the cases alongside one another and come up with a reasonable definition.

Question: Chairman Kintner, is it legitimate to pay brokerage to an individual who acts as an intermediary between seller and buyer and whose entré to the buyer is the fact that he owns and controls a label under which only he can sell merchandise to this

group of buyers? Do I make myself clear?

Chairman Kintner: You do. I must be careful in discussing the brokerage situations here in view of the *Brook* case. This problem either has been or is being considered by the Commission in a case, and I would like to duck that. I can't rule on these matters from a platform like this. If you will write me a letter, I will check to see what cases we have pending and what the status of those cases is, and if I can with propriety, I will give you an informative reply.

Question: A certain grocery jobber in the city of Chicago has been buying 2-quart sizes of pickles for many years. They were well-liked and there

was a high public acceptance for our certain brand of pickles. In late fall there was a complete cut-off with our broker. So before coming out to this large Convention, I went to see this large grocery jobber on the fourth of January. That was a Monday, gentlemen. I asked what happened that our pickles are not being bought any more? He threw up a blanket size form and says, "Now if you want to be accepted you have to start with zero and it will be \$1,800 for 12 weeks even if we accept you with your pickles." The question is, is that certain grocery jobber making a violation when he is asking for a hand-out?

Chairman Kintner: I invite you to write me, and I will put your complaint in channels.

MARKETING SESSION

PRESIDING: MILAN D. SMITH, Smith Canning and Freezing Company, Pendleton, Ore., 1960 President of N.C.A.

ADDRESS: "Food Consumption Trends—Their Significance to the Canning Industry"—JAMES P. CAVIN, Chief, Statistical and Historical Research Branch, Agricultural Marketing Service, USDA

ADDRESS: "Gearing Canned Foods Production and Sales to Food Retailing in the 1960's"—ROBERT W. MUELLER, Editor, *Progressive Grocer*, New York City

Food Consumption Trends and Their Significance to the Canning Industry

By James P. Cavin,
Agricultural Marketing Service,
U. S. Department of Agriculture

In this talk I shall deal briefly with three questions: (1) What are some of the long-time trends in U. S. food consumption? (2) What are some of the factors influencing these trends? (3) What can we say about the demand for food over the next 10 to 15 years? Instead of reading a speech, I am going to show some basic charts and comment briefly on them.

Though my discussion will center around the major food groups, I will try to say a few things about canned foods as such. However, limitations of time and data (particularly the latter) make it necessary to confine my remarks largely to the fruit and vegetable area.

It may be worthwhile to say something about the kinds of data with which we work. Broadly, these may be grouped as (1) time series, and (2) one-time studies. The first type is represented by the Department's series on per capita food consumption. These are derived from other time series on production, stocks, imports and exports, and enable us to say, for example, that the consumption of canned fruits in 1959 was about 23 pounds per person compared with an average of 19 pounds in 1947-49, and

15 pounds in the prewar period 1935-39.

The second type of data is represented by the Department's 1955 Household Food Consumption Survey which embodied the results of 6,000 interviews from Maine to California in the spring of that year. On the basis of this study, we can say, for example, that the South was, on the average, quite a bit lower than the rest of the country in the per person purchases of fluid whole milk, cream, ice cream, and butter; but higher in purchases of buttermilk and evaporated milk. We can also say that, at the time, the quantity of canned vegetables used per person declined with higher levels of income in the Northeast; increased in the South; but showed little response to income in the North Central Region and the West.

Two factors have maintained the demand for food at a high level during the postwar period. These are population growth and a steady rise in the real income of consumers. When the latter is put on a per person basis, it can be seen that both elements have increased at about the same rate. In 1959, population was 21 percent higher than in 1947-49, while real income per person was 22 percent higher. Of the two elements, population growth has been the more important in bringing

about an increase in total food consumption.

"Food expenditures have risen steadily over the last decade or so. However, they have risen less rapidly than income. Thus, food expenditures as a percent of consumer disposable income have declined from about 27 percent in 1947 to around 21 percent in 1959.

Many studies of consumer expenditure patterns indicate that as incomes rise, spending for food also rises, but at a slower rate. After meeting their basic food needs, consumers tend to use further increases in income for other goods and services, or for savings. Furthermore, such increased outlays for food as do take place, tend to be made for better quality products and more marketing services.

Any analysis of trends in the demand for food in recent years requires a look at developments in the marketing system. One outstanding feature has been a sharp rise in the food marketing bill, which increased 71 percent from 1947-49 to 1959 as compared with a rise of only 8 percent in the farm value of food. Furthermore, food marketing charges per unit of food have risen more than the total volume of food marketed.

It may also be of interest to look at the components of the rising marketing bill. All of these have gone up, with labor costs being specially important. There is also a large category labeled "other" which includes a wide

variety of items such as packaging, containers, fuel, electric power, and certain taxes.

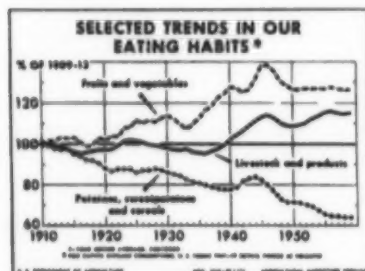
Total Marketing Bill and Farm Value of Foods

	1947-49 ave.	1958	1959 Preliminary
(billions of dollars)			
Farm value	18.3	20.8	19.8
Total marketing bill ..	22.5	36.9	38.4
Retail cost	40.8	57.7	58.2

Another significant trend has been the increase in the factory production of farm foods, which has expanded more than farm marketings since 1947-49. This indicates an increase in the proportion of food consumed in processed form, and probably accounts for a small part of the rise in the food marketing bill.

Let us move closer to some of the individual foods by examining the long-time trends in the per capita consumption of three of the principal food groups. The consumption of fruits and vegetables considered together has shown a steady upward trend since before World War I. The real upward trend in livestock and products did not get underway until just before World War II. The combined use of potatoes, sweet potatoes and cereals had tended downward throughout the entire period.

However, if we look at these trends in relation to 1947-49, the picture changes considerably. Livestock and livestock products continue their upward movement, but the consumption of fruits and vegetables becomes relatively stable.



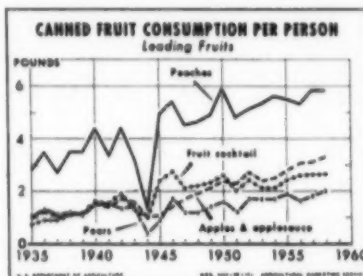
CANNED FRUITS AND VEGETABLES

Marked changes have taken place in the per person consumption of processed fruits compared with fresh. Frozen products have risen in importance. In 1935, fresh fruit accounted for 77 percent of the total, canned fruit for 12 percent, and dried for 11. Last year, however, fresh accounted for 52 percent, canned for 26, frozen for 16, and dried for 6.

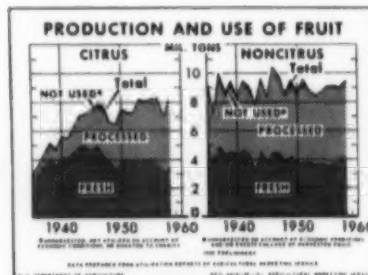
The total pack of canned fruit (excluding juices) has more than doubled since 1935. Canned apples and applesauce combined have about quadrupled, and this is true of fruit cocktail. The pack of peaches has more than doubled, and that of "other fruits" just about doubled. Included in this basket category are pears, cherries, cranberries and citrus sections.

In terms of relative importance, the 1958 pack was about 32 percent peaches; 18 percent apples and applesauce; 15 percent fruit cocktail; and 35 percent "other fruit" (including 10 percent pears and about 4 percent each of cherries, cranberry sauce, and citrus sections and salad).

All of the important canned fruits exhibit upward trends in per capita consumption. Peaches are of greatest importance. In 1958 the per capita consumption of that product was estimated at 5.8 pounds compared with 3.3 for apples and applesauce, 2.6 for fruit cocktail, and 2.0 for pears.



Also worth noting in the fruit sector are certain differences in trends between the citrus and the noncitrus fruits. The production of citrus fruit increased sharply from 1935 to 1946, but has since increased less rapidly. Meanwhile, production of the noncitrus fruits has held at a level somewhat above the peak for citrus. Marked differences are observable in the relative proportions used processed and fresh. For the noncitrus fruits, the percent of production processed in 1958 was 55 percent compared with 46 percent in 1935. For citrus, however, the percent processed in 1958 was 58 percent compared with 9 in 1935.

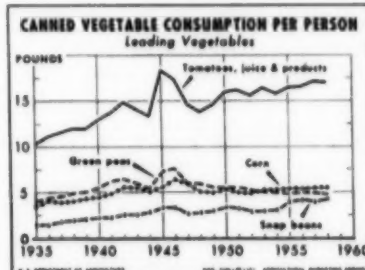


The trends for vegetables more or less parallel those shown for fruit. In 1937, fresh vegetables accounted for 67 percent of total consumption per person, canned for 32 percent, and frozen for less than 1 percent. In 1958, the fresh vegetables accounted for 51 percent, the canned for 41 percent, and the frozen for 8 percent. The smaller rise in the proportion of vegetables frozen compared with fruit is largely accounted for by the rapid postwar rise in the pack of frozen orange concentrate.

The canned vegetable pack has almost doubled in the last 20 to 25 years. In absolute terms the total pack has risen from an annual average of 141 million cases (No. 2 equivalent) in 1935-38 to 273 million cases in 1955-58.

The individual items have participated in this growth in varying degrees. The pack of canned snap beans almost tripled, while that of tomatoes and tomato products has a little more than doubled. Corn increased about 50 percent and green peas about a third. The pack of "other" vegetables more than doubled. This group includes some 18 to 20 items, practically all of which have increased. However, four items—cucumber pickles, sauerkraut, spinach, and asparagus—account for more than half of the total.

In terms of relative importance, the average 1955-58 pack was about 40 percent tomatoes and product; 9 percent green beans, 11 percent corn, 11 percent peas, and 29 percent "other."



The most important upward trend in the per capita consumption of canned vegetables has been in tomatoes, juice and products, where the estimated consumption in 1958 was 17 pounds per person. Consumption of snap beans has trended gradually upward, with per capita consumption in 1958 estimated at 4.2 pounds. The consumption of canned corn has remained comparatively steady in recent years, with canned peas showing a slight downtrend. The quantities consumed in 1958 were 5.4 and 4.7 pounds, respectively.

PROJECTIONS

So much for recent trends. What can be said about the future—especially the next 10 to 15 years? We in the Department of Agriculture do not

pretend to be able to forecast the fate of each agricultural commodity over long periods of time, but we believe we can provide some indication of what is likely to happen over time under specified assumptions, including the continuation of long-time trends and past relationships among such variables as production, prices, income and consumption. Extrapolations of this sort have come to be known as "long-range economic projections."

In the latter part of 1958, one of our senior analysts presented the results of a study of prospective demands for food and fiber before a Subcommittee on Agricultural Policy of the Joint Economic Committee. This was an attempt to appraise the magnitude of requirements for food and fiber to around the year 1975. Though these particular projections currently stand in need of some revision, they can still serve to give some notion of the U. S. food market over the longer run.¹

I will not go into the details involved in making projections of this sort, but a few of the key steps should be mentioned. The two most significant ones in appraising the over-all level of domestic demand for food are (1) an estimate of the size of the U. S. population, and (2) the income available to that population.

Total population has been projected to the year 1975 at a possible range of 207 to 228 million persons. Actually recent population estimates indicate that this projection is probably too low. A more likely range is perhaps 215 to 240 million, an increase of 20 to 35 percent over 1959.

The income projection is built up through a series of steps. From the projection of total population an estimate of total employment is derived. When this is combined with a projection of hours worked per week and output per man hour, an over-all estimate of the total value of goods and services produced in the nation is derived. This latter magnitude is familiar to all of us as the "gross national product."

¹ Rex F. Daly, "Prospective Demands for Food and Fiber," in *Policy for Commercial Agriculture—Its Relation to Economic Growth and Stability*. Paper presented before the Subcommittee on Agricultural Policy, Joint Economic Committee, November 23, 1957.



JAMES P. CAVIN

Given the total gross national product, comparable estimates can be made of disposable income in the hands of consumers. The upper line in this chart shows a projection of disposable income per person to the year 1975. In terms of 1947-49 dollars, it represents an increase of around 40 percent over 1959. However, the accompanying increase in the domestic utilization of farm products per person would be very much less, as indicated by the lower line in the chart.

Nevertheless, when one combines the very large projected increase in total population with a modest per capita increase due to rising incomes, the result 15-16 years hence is a total demand for food some 40 percent above that of 1959.

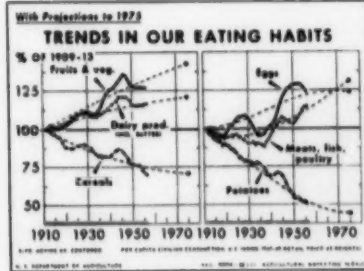
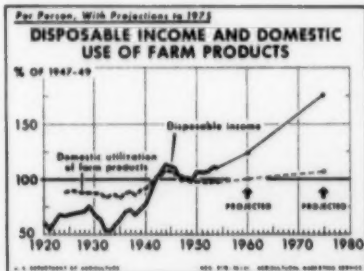
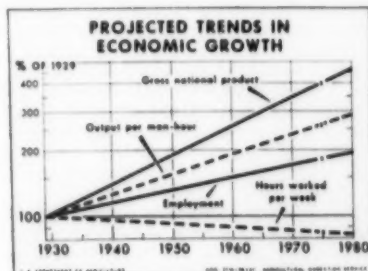
Just what such an increase in aggregate demand for food might mean in terms of individual products is, of course, difficult to say. But in this connection, the final chart, which shows long-time trends in per capita consumption for six of the principal food groups may be of interest. Exhibiting an upward movement are

fruits and vegetables; dairy products; eggs; and meats, poultry and fish taken as a group. Downward trends are apparent for cereals and potatoes. It should be noted that the foods with rising trends show considerable variation around these trends. Changes in consumer incomes account for a fair portion of these variations.

Also shown are some projections to around 1975, which show a continued strong upward movement for fruits and vegetables, and for meat and poultry; a moderate uptrend in dairy products; and a tapering off in eggs. The most pronounced expansion seems likely to take place in red meats and in fruits and vegetables, where total domestic consumption may increase some 45 percent or more.

Coming back to canned foods as such, it is difficult to make any emphatic projection. However, analysis of the 1955 Food Consumption Survey indicates that two long-time trends are operating in the direction of increased consumption of processed foods per person. These are rising real income and continued increase in the proportion of the population living in urban households. On the other hand, it is also clear that there is a damping effect on the urban use of canned foods as income per person rises above the average. In other words, the income effect primarily involves individuals whose income goes from below average to above average.

Taking all factors into account, the best guess that can be made is that income and urbanization changes between now and 1975 would result in something less than a 10 percent increase in U. S. per capita use of farm foods in canned form or in all processed forms. When this is combined with projected population changes, the increase in total consumption of canned and other processed foods would not be greatly different than for all foods. Whether the proportion canned will show a relatively greater increase depends on such factors as technological change, merchandising, and shifts in food patterns which do not lend themselves to long-range statistical projections.



Gearing Canned Foods' Merchandising to Food Retailing in the 1960's

By Robert W. Mueller,
Editor, *Progressive Grocer*

It is a great pleasure to talk to you, the members and friends of the National Canners Association. In fact, it is doubly pleasant because, of all those who serve the food retailer, no group has a closer relationship, a greater understanding, or more interest in the important trends in food distribution than the canner.

My presentation comes in four parts. First, a brief look at what seems in store in the 1960's; second, the contribution of canned foods to modern super market sales and profits; third, some new facts about canned foods' most important asset; and fourth, the trend to decentralization and its meaning to the canner.

FORECAST FOR THE SIXTIES

Any forecast, regardless of its nature, must be based to a great degree on what has happened in the past, and so it must be in forecasting sales of grocery and combination stores.

In the past 10 years sales have increased from \$25.6 billion to \$48.3 billion, a gain of 88 percent. During this same period prices increased about 15 percent, leaving a gain in so-called tonnage of approximately 73 percent. This net gain, as we all know, derived from greater population, new lines in non-foods, more items in old lines, more expensive convenience foods, and from generally stronger promotion and better merchandising.

There are many subjects in the grocery business over which there is wide disagreement, but a surprising degree of agreement when it comes to future sales. Chains, wholesalers, independent retailers, and our own estimates all indicate an expected normal sales gain of 5 to 6 percent per year, slightly lower than the food store sales gain over the past 10 years, but higher than the gain in other retail industries.

If this happens, the nation's grocery stores will do \$68.5 billion in 1965 and \$89.0 billion in 1970.

The trade feels, and rightly so, that the public is going to eat more food, better food, will be far more health- and nutrition-conscious, and will buy more of their nonfood requirements in food stores in the period ahead.

Of equal and perhaps greater interest is the picture on margins and net profits. Again we draw on the history of our business, sharpened by the opinions and plans of operating people, to arrive at this forecast of over-all retail margins.

The recent trend in margins is causing some concern among opera-

tors, distributors and manufacturers. But before discussing reasons for this concern, let's review a little history.

In 1928, in the days of clerk service, credit and delivery, and generally comfortable business conditions, a typical margin was 26 percent on sales. Eight years later, in 1935, due largely to the depression and its downward pressure on prices, margins had shrunk to 22 percent.

Conversion to self-service, greater efficiency, shortage of help helped operators to cut margins still more in the 1940's, and they reached their all-time low in about 1950. Since then margins have slowly been rising due to several factors—more expensive stores, trading stamps, higher wages, and a leveling off in sales per man-hour.

Operators are not necessarily alarmed because margins are now at about 20 percent. They are concerned over the direction of the margin trend and see trouble and vulnerability if margins should creep up, say, to 23 or 25 percent of sales.

In our opinion, and most chains and wholesalers agree, margins are not yet at their peak.

In spite of the dangers inherent in a further rise in margins, chain and wholesaler leaders expect margins to rise, perhaps to as high as 22 percent by the mid-60's.

FOOD STORE TRENDS

One of the most interesting aspects of our forecast is that of the food store itself—how many, how big, and what kinds? First, let's ask how many?

Number of Grocery Stores

1935	420,000
1940	446,000
1945	398,000
1950	400,000
1955	385,000
1965	250,000

There has been a great deal of confusion on number of stores in recent years. In the 1930's and early 1940's there were virtually no super markets. All were modest or small, each serving only its own neighborhood.

The war years, you will recall, saw a moderate decline in number of stores. After the war the number increased slightly with the return of G. I.'s, a loosening of construction restrictions, and an increase in the flow of merchandise of all kinds.

But in the early 1950's the super market boom began in earnest, affecting big chains, little chains, independents, and wholesalers. Since every new super market attracted a volume 10 to 30 times that of a single small store, a reduction in their number was inevitable.

Between 1950 and 1959 the number of stores declined by 115,000, an average of 12,800 per year. However, as we look to the 1960's we must realize that the displacement of small stores cannot continue at this high rate. There will be further declines in total, but interesting additions at the same time.

Of all the developments in the history of distribution in this or any other nation, none has been so spectacular as the super market, defined here as a store with annual sales of \$375,000 or more.

Super Markets: Number, Percent of Grocery Stores, and Share of Grocery Sales

Year	Number	Percent of total number of grocery stores	Percent of total grocery sales
1952	10,500	4.4	43
1954	21,400	6.0	53
1956	27,100	8.7	62
1958	29,900	10.5	68
1965	36,000	14.4	74
1969	40,000	17.8	75

The obvious conclusion is that if present policy requires salesmen to call only on super markets and other large stores, more salesmen will be needed with each succeeding year. There are additional arguments favoring more and not less store coverage that we shall discuss a little later.

Growth in number of super markets means little unless accomplished by their share of total sales.

Our own estimates put the super market share of sales at 74 percent in 1965 and 75 percent in 1969. Many observers believe, and we concur, that super market share of sales cannot appreciably exceed 75 percent and may never go beyond that level.

One sees on every side that today's new super market must get the big share of its volume from existing super markets, with little if any coming from smaller stores in its trading area.

How big are tomorrow's super markets going to be, and what will they handle?

For example, does the trade consider the super general store to be the store of the 1960's? The consensus is that the opportunities for successful stores of this type are limited. Stores of this size must draw from a much wider area than the average super market, and most operators do not believe they can pull housewives 3, 4, 5 and even 10 miles when they can get the same foods at comparable prices from a super market located only blocks or at most a mile or two away.

At present there are perhaps 100 super general stores operating. By 1965 there may be 700 to 800, or one super general store for each 50 to

60 standard supers. At most such stores will probably never handle more than 1½ or 2 percent of total grocery sales. These stores will be a tigger factor in the discount store business than in the food business.

In sharp contrast to the super general store are the small drive-ins and bantams. The drive-in in a neighborhood or edge-of-town location with parking, and the bantam, the scaled-down version of the super market and usually located in crowded areas—are on the way up.

We asked our chain and wholesaler panel how these vestpocket stores were doing. Collectively they reported 1,200 built in the last 12 months, and almost without exception all doing "very well."

What about the super market, what do retailers themselves say about the stores they expect to be building in the 1960's? Will they be bigger, smaller, or the same size as those built today?

Their answer: "tomorrow's super markets will not be bigger, and in many areas and localities smaller than today's average size super market." When asked for the average size their firms and customers would build, their answers ranged between 10,000 and 24,000 square feet over-all. It appears that the growth in size of the super market has ended, at least for several years to come. In the 1960's operators will build less hastily, will design and size the super market to the trading area more carefully.

Let's turn now to the number of items and the new lines that retailers expect to carry in the 1960's.

In the 30-year period from 1928 to 1958 the increase has been more than sixfold. But what about the future?

Number of Items Handled

Year	Number of Items Handled
1928	887
1946	3,000
1950	3,750
1958	5,400
1965	6,400
1970	7,000

We believe we can shed some light on this. Every two weeks the Retailing Research Division of *Progressive Grocer* makes a special study of the decisions made by buyers and buying committees in 150 chain and wholesale headquarters throughout the country. When we eliminate all deals and seasonal items we find that the average company is adding 6.8 new items and dropping 4 items each week.

And so in the years between now and 1965, for example, a typical warehouse will have added about 2,500 new items, and dropped approximately 1,500 items, for a net gain of 1,000 items. If stores do not increase in size, will they be able to absorb these new items? Operators say they will, and it will be done by freeing shelf space through more scientific space management, more realistic facing of merchandise.

The subject of distributor headquarters is a vital one for manufacturers in the period ahead. First, let's see what the trend has been and where it's leading in terms of retail volume supported by headquarters.

Grocery Store Sales

Year	Chains	Unaffiliated independents (percent of total grocery store sales)	Affiliated independents
1947	37	34	29
1950	36	31	33
1953	36	25	39
1956	37	19	44
1958	39	16	45
1965	42	11	47

As one looks at total sales in this three-way break-down, it is apparent that the chains (operators of 11 or more stores) and affiliated independents (members of co-ops and voluntaries) have increased their share of the pie at the expense of the unaffiliated (independent independent). The co-ops and voluntaries have made remarkable gains. According to the current FTC study of grocery distribution, sales of co-op warehouses increased by 356 percent, and sales of voluntary wholesalers increased 181 percent in the last 10 years. This compares with a gain of 107 percent for leading chains and, of course, a virtual standstill for unaffiliated independents.

How many buying offices must be called on at the distributor level in order to make products and promotions available to retail stores?

Number of Buying Offices

	1950	1959	1965
Voluntaries	519	635	645
Co-ops	191	216	230
Chains	323	340	350
Unaffiliated	3,328	1,850	1,000
Total	4,361	3,041	2,825

As this review indicates, the number of buying offices increased in the top three categories (voluntaries, co-operatives and chains) and declined sharply among unaffiliated wholesalers between 1950 and 1959. We expect that trend to continue during the 1960's but at a more moderate pace.

Headquarters buyers will increase in number due to new lines and the trend toward specialization. The buying committee, which has actually been more of a defense mechanism against the flood of new items than a working buying body, will be less important in the 1960's as retail sales data become processed more quickly, more accurately, and with greater meaning.

CANNED FOODS' CONTRIBUTION

Let's leave our forecast of basic trends and turn our attention specifically to canned foods. We have made

special tabulations to reveal the great part canned foods play in today's super markets.

The contribution—or "can-tribution"—of your products to grocery department sales and profits amounts to 20 percent of all items, 30 percent of unit sales, 22 percent of dollar sales, and 23 percent of gross profit. These figures are based on *Progressive Grocer's* Super Valu Study.

Together these canned foods' categories constitute 20 percent of all items handled in the grocery department, yet their contribution to unit sales, dollar sales, and dollar gross profit exceeds 20 percent in each of these vital measurements of product performance. Let's get into these measurements in greater detail by examining each in terms of the performance of canned foods in a typical super market week.

The impression that one gets from these figures is simply this: canned foods are volume items. The typical super market carries 847 different canned food items, sells 12,164 units to its customers each week. Please note the most important figure of all: average unit sales of 14 per average item are nearly twice as great as the average of all other grocery items. And we see that these units, these cases translate themselves into big dollar volume.

Our typical super market puts \$2,453 into its cash registers each week through the purchase of canned foods. This breaks down to an average of \$2.90 per item—again a bigger contribution than from the "all other grocery" category.

Canned Foods Unit Sales, Dollar Sales, and Gross Profit (one super market week)

	Canned foods	All other groceries
Unit sales:		
Number of items	847	3,356
Total unit sales	12,164	28,191
Ave. unit sales per item	14	8
Dollar sales:		
Total sales	\$2,453	\$8,777
Ave. sale per item	\$2.90	\$2.61
Gross profit:		
Percent profit on sales	19.2%	17.8%
Total gross profit	\$472	\$1,561
Ave. gross profit per item	56¢	46¢

And so it is clearly established that canned foods are volume foods, both collectively and by individual item. There's an old rule of thumb in the grocery business that volume items are low profit items. Does this apply to canned foods?

No, the rule of thumb does not apply to your products. Very few individual items combine high sales and high profits. Yet here in the entire canned foods line we find this uniquely favorable combination. Canned foods offer a higher per-

centage gross profit rate and also earn more pennies gross profit than the "all other" average.

These are some of the reasons why canned foods enjoy more promotion within the store than any other major category of merchandise.

CANNED FOODS' GREATEST ASSET

Canned foods' greatest asset are their value as a special display item. This is the ultimate, the goal for which every manufacturer is striving—the preferential treatment, the act of forcefully bringing a product to the attention of the consumer often at a bargain price. You, the food canners, are truly blessed by retail store attitudes that bring your products into the retail spotlight far more than your share of number of items, or share of sales, or share of profits might command.

Out of every 100 special displays erected by store managers and department managers during this period, 35 featured canned foods. How effective were these displays? We were frankly amazed, and our amazement was exceeded only by that of top management and store personnel, when the results were determined. The complete story of this display study will be available to you in printed form after this season. Here are the highlights on canned foods.

Over the eight-week period these stores built 256 special displays that featured canned foods. The weekly shelf sales of these items were 7,292 units. But their sales from special display were 70,160, a gain of 960 percent—nearly 10 to 1 over normal sales.

Please remember that these were not unusually big displays, nor were they super spectacular, but the everyday variety that one sees in any super market any time. Yet the results are spectacular; the gains are greater than customarily attributed to special display over the years. Are new conditions, new circumstances responsible for these remarkable sales increases?

We think so. Stores are larger, carry more items and therefore shopping has become more confusing, sometimes monotonous. Under these conditions, consumers appreciate breaks in monotony. They like bargains, reminders, ideas—all of which can best be presented by means of special display. Essentially, these are the reasons why special display is more powerful than ever.

But rather than theorize further, let's see how various kinds of canned foods responded to display during this period.

First, canned juices. They were featured in 45 displays. Normal sales of 870 units were increased to 5,744—a gain of 564 percent over shelf volume.

Canned prepared foods, with 19 features, did unusually well with a

gain of 1,598 percent over normal shelf movement, indicating that shoppers are ever on the look-out for quick meal ideas.

Canned vegetables rate as a standard and a popular display item. They were featured 52 times and showed a total gain of 613 percent over normal.

Canned fish also showed an excellent reaction to off-the-shelf featuring, and in six displays responded with a very healthy 658 percent sales gain over normal sales expectation.

And canned fruit was the champion among champions, the group that received more features than any other, not only in the Dillon display study, but in other measurements we have made. Canned fruits, high impulse items both for the consumer and for store personnel who select items for special display, were featured 82 times and moved 23,462 units, for a truly fabulous increase of 1,216 percent over normal.

We have just seen how canned foods perform under a general display program that included all kinds of merchandise, canned foods, nonfoods, detergents, health and beauty aids, and so on. Under these conditions, 734 special displays increased sales of featured items 652 percent.

STORE-WIDE PROMOTIONS

The store-wide promotion, basically a promotion depending on in-store special display, is one of the most powerful and probably the most powerful merchandising plans operating today in the entire retail food business. In two promotions total sales averaged 18 to 1 over normal movement of these same items.

In addition to proving beyond any doubt the enormous power of special display, it shows what can be done when the three important elements in food distribution—the supplier, the retail headquarters, and the retail store—all cooperate in the planning and the execution of a major undertaking. You in the canning industry deserve congratulations for your initiative in developing store-wide promotions such as the round-ups, gold dollar sales, spring-time garden, fall harvest and many, many more that have become integral parts of the retailers' merchandising programs.

If you will permit a few observations on retail store promotion as it relates to the canner, here are a few that appear obvious to me:

First, you enjoy a valuable heritage that lies in the retailers' traditional tendency to favor canned foods when planning special displays and promotions. He has his good reasons and they trace to the wide appeal your products hold for the consumer, their exceptionally high unit sales, their higher than average percentage profit

and their superior contribution of actual gross profit dollars. And as we have just seen, canned foods respond to special promotion.

And with this heritage goes an obligation—to retailers and to yourselves—to do everything in your power to stimulate even more the in-store promotion activity with sound ideas for every major type of product and for every seasonal opportunity. Whether you realize it fully or not, you, the canner, hold an enviable advantage in today's competitive battle.

And now, finally, let's discuss briefly one of the less apparent but most important trends seen in food retailing in many years. This trend is the upgrading in the caliber, authority, and responsibility of the men who run the nation's super markets—and here is why!

THE RETAIL STORE

Let's look first at the store itself. In a comparison between one chain's typical new super market of 1949 and 1959, store size is up from 6,000 to 20,000 feet, number of items from 3,500 to 6,000, sales from \$12,000 to \$60,000, and competition three to four times as keen.

And the changes are not confined to the physical plant. They are found in terms of people, both retail personnel and customers. The typical store of 1959, for example, requires 90 men and women to run it, to fill the needs of the 12,000 to 15,000 or more customers who visit it each week. The changes we have seen here apply also to the typical independent super market of 1949 and 1959.

Store management is a bigger job, a tougher job, one that demands better men, better trained, better educated, better paid, and with far more responsibility than would have been considered wise or even possible as recently as five years ago.

Just how will this new authority be brought to the store level? Or, as one chain executive phrases it, "How can we put the power closer to the wheels?" Already these three things are being done: (1) we are hiring more capable people, (2) we are training them better, and (3) we are raising the income level.

More specifically, what are the important problems facing retailers that greater understanding and authority at the store level can help to solve?

Rather than generalize, let's study this list of responsibilities newly assigned to store managers in a well-known big chain that holds special significance for grocery manufacturers. These responsibilities, we believe, will be held by the great majority of all store managers of chain and independent super markets in the 1960's. This does not mean that headquarters' people will relinquish their duties; it does mean that head-

quarters' people, chain, and wholesale will make policies, decisions and plans that fit into this concept of putting the power close to the retail wheels.

Here are the areas of responsibility of the store manager of the future:

1. Cooperation: The store manager, store supervisor and headquarters must know one another better, to understand basic policies and goals, and to work together more effectively.

2. Communication: Communication is our biggest single problem. Headquarters must develop better ideas and promotional opportunities. But it now becomes the responsibility of the store manager to keep informed and to take advantage of these aids as they fit the special requirements and clientele of his store.

3. Merchandise selection: The store manager is expected to order and stock the overwhelming majority of items bought and stocked by the warehouse. However, he no longer need handle all items; he may drop any item that fails to move in his store. He may buy items on a direct basis if he believes they are needed to satisfy the needs or wants of his particular customers. His opinions on new items will be systematically sought by buyer-merchandisers.

4. Merchandise arrangement: The store manager will continue to receive the benefit of headquarters' recommendation on stock arrangement. But he is solely responsible for arranging and facin^g brands and items with a view toward obtaining maximum volume. In other words, he decides how to group items, how to face them, which are to receive preferred shelf height and position. His decisions will largely be based on actual sales and profit records by products, brands, and sizes.

5. Special display: Our average super has facilities for 25 to 50 special displays. Headquarters offers 10 to 15 suggestions per week, any one of which the store manager can accept or reject. However, he is responsible for total use of display facilities and must choose appropriate and profitable items for featuring.

6. Manufacturers' salesmen: The store manager is urged to develop promotion plans of his own in addition to the enthusiastic use of promotions planned by headquarters, and those offered by manufacturers and accepted by headquarters.

7. Promotion: Manufacturers' merchandisers approved by headquarters are free to call on store managers to aid in building displays, to install and maintain basic stock arrangement plans, and to present the manufacturers' ideas and recommendations on how to sell more and make more in a total product category.

8. Margins and profits: The store manager will be given more informa-

tion about product and brand sales and margins. This new information is made possible by faster, more meaningful data processing at headquarters. This information will be supplied to store personnel in increasing volume and they will be urged to apply this information to increase sales and profits.

Food retailing is now quietly but busily developing thousands and thousands of young new executives, and we predict this profile of typical retail executives in 1965:

The super market owner, the community merchant who operates from one to perhaps 10 to 15 stores, will enjoy an average income of \$25,000 to \$75,000 a year. Nearly half will be college educated, their average age between 40 and 45.

And the store manager of 1965 will be a far cry from his counterpart of 1950 or even 1955. A business doing a multimillion dollar volume needs men with education and ability, and salaries in this range must be offered to attract, develop and provide incentive for managers who can carry the new duties and responsibilities that we discussed a few minutes ago.

And now let's take a look at the nation's food retailing machine—our super markets in total—as they are today and as they will be in 1965. This is the machine that canners will be called on to sell, supply, advise and guide, to which they must adjust and which they must understand if they are to bring their products effectively to the attention of America's consumers.

In the relatively near future, in 1965, our super market selling machine will have grown from 315 million square feet to 486 million square feet. The number of check-outs will grow in similar proportion, from 125,000 at present to 190,000.

And even though the number of stores will keep on declining in the next decade, the number of store executives, store employees and shoppers will increase very substantially. By 1965 the nation's super markets alone will require 145,000 store and department managers and a staggering total of 1,400,000 employees will be needed to take care of the food and household needs of the 300 million men, women and children who will come face to face with your products each week.

In looking to the 1960's, the manufacturer must not make the mistake of thinking of this industry as a shrinking business falling into the hands of fewer people, fewer stores. He must think of it rather as a period of growth, more super markets, more people, more headquarters, more people of responsibility, all moving closer and closer to the consumer.

While retailers will never stop trying to take customers away from each



ROBERT W. MUELLER

other in order to build sales, they are consciously or subconsciously setting up a new and important goal.

That goal is to find ways to sell more to each customer on each shopping trip—and to realize a higher gross profit return without increasing prices.

A big order, but this is the way food retailing must move in the 1960's. It's an admirable goal, one that seeks to induce the consumer to spend more of her total budget in the nation's food stores.

How will this goal be achieved? In many ways, but primarily through new concepts of in-store merchandising, concepts developed by manufacturers, distributors, and by retailers, and based on more intensive, more realistic merchandising research.

These are some of the things that retailers will look to and experiment with in the pursuit of their goal: what lines to handle, how much variety in a line, how to absorb new items, when to drop old items, how to face merchandise, group it, position it, how to pull more traffic into and through the grocery department, how to price promotionally, how to develop better special display methods and plans. How to give each department, each category sharper identification, quicker recognition, how to lend excitement to a store, how to develop customer loyalty needed to counteract the natural attrition in sales that comes with advancing store age.

These things will help food retailers and manufacturers in the 1960's, a decade that will require higher standards, not only in salesmanship, or product quality, convenience, merchandising and promotion, but also in the ethics and in the integrity of this, the nation's biggest business.

QUALITY AND QUALITY CONTROL in Canned Foods

PRESIDING: C. L. RUMBERGER, H. J. Heinz Company, Pittsburgh, Chairman, N.C.A. Scientific Research Committee

ADDRESS: "What the Consumer Expects in the Quality of Canned Foods"—MRS. AGNES R. OLMSTEAD, Director of Home Economics, Colonial Stores, Inc., Atlanta

ADDRESS: "Quality Control Techniques Available to the Average Canner"—BRUNO A. FILICE, Filice and Perrelli Canning Company, Richmond, Calif.

ADDRESS: "Quality Protection with Statistical Quality Control"—IAN MACPHAIL, H. J. Heinz Company, Pittsburgh

ADDRESS: "Radioisotopes and Nuclear Techniques in Food Technology"—DR. JOHN H. RUST, Head, Section on Nuclear Medicine, The University of Chicago

What the Consumer Expects in the Quality of Canned Foods

By Mrs. Agnes R. Olmstead
(Nancy Carter),
Director of Home Economics,
Colonial Stores, Inc.

Perhaps a better title might have been, "How To Think Like A Woman." There may be some in the audience who would say that's an easy subject because most women don't think! Maybe they don't about some things, but food is not one of them.

My many years of work with consumers and my years in a man's business world have convinced me that what "sells" a woman is very different from what "sells" a man. What makes a man want to buy is not necessarily the same thing that influences a woman. This is no criticism of either; it's just that a woman evaluates a thing in relation to how it looks, what she can do with it, is it good, etc.

Women have different thought patterns. Often they will arrive at the same conclusion men do but they get there by devious ways. Men say a woman is overweight. Women say they are *not* overweight, but rather they are just not tall enough for their weight! A difference of thought patterns. What's wrong about that!

The program subject assigned me has three key words—"consumer" . . . "expects" . . . "quality." Oddly enough that's about the conclusion of my talk too. The "consumer expects quality."

Let's look at each word quickly.

1. "Consumer": Who is the consumer? Food store consumers are still predominantly women. Some men do shop for food but they're in the minority. 1960 customers are not the same type women of 10 years, 5 years or even 2 years ago.

1960 customers are better educated (although not necessarily about food), are married younger, have more children, increasingly large numbers work

outside the home, and fewer have servants. They tend to lead an informal, casual life dependent upon convenience foods and upon the help of modern labor-saving appliances (this includes husbands).

2. "Expects," the second word, is a very important one. 1960 customers will expect more than they did in 1959. How much they "expect" and how well we give them what they "expect" will largely determine whether they make repeat purchases.

Customers will have more money to spend. Whether they spend it for more food is one thing. In all probability they'll spend it for *better* food because they are upgrading their own food tastes, eating new foods, and experimenting with old favorites. 1960 will see more of what I call "uninhibited appetites" than any year past.

3. "Quality": A consumer's "measurement" or "idea" of quality might be different from yours. Many of you men are quality control or production people. Quality is *your business*, your training, your experience.

Not so with a consumer. Quality is not her training, perhaps not even her experience, and certainly *NOT* her business.

I have not planned a formal talk today but rather to share some consumer mail with you. Much of Colonial mail is similar to that received by the fine consumer service departments of your Association and your individual companies. We in Colonial Stores solicit consumer mail. Private labels on our canned foods, frozen foods, bakery products, etc., as well as our newspaper price ads, monthly recipe folders and our Nancy Carter newspaper column to 187 papers, all invite women to write us if they need food help.

Each year Colonial Stores' Nancy Carter receives thousands of consumer letters. We went through last

year's mail and selected 300 women whose letters indicated they had a sincere, real interest in food and home-making. We wrote them an informal note, attached a questionnaire about canned foods and asked their help. This is not what Madison Avenue or even your research departments would call a "scientific sampling." These are just 300 wonderful consumers picked at random who live in our 10-state Colonial territory—from Norfolk, Va., and Columbus, Ohio, to Birmingham, Ala., and Jacksonville, Fla.

The names of the women are not important to you, but *their thoughts are*, because they determine tomorrow's business. These women and thousands like them are any businessman's greatest risk.

In addition to the mail survey, my staff members and I annually spend many hours in Colonial stores talking with women. Here we have an opportunity to learn many things, things which women would not take time to write about or would be hesitant in so doing.

It's the response from these women I hope you'll find as interesting and informative as I did.

Consumers are mighty intelligent about canned foods. The majority of consumers complimented you on your fine foods and on the great convenience of them. Here are some of the accolades women gave canned foods. The words are direct quotes, the expressions of our customers!

Williamston, S.C.: "Canned foods are a life-saver for people like me who live out in the country and have no freezer lockers."

Virginia Beach, Va.: "Canned Foods have terrific quality for the money. I consider them my best food buy."

Cincinnati, Ohio: "I've spent a month in the hospital. The food was excellent. Much of it came from cans. Canned foods are wonderful for family menus and for husbands who suddenly become chief cooks. It's just another blessing of modern times."

Atlanta, Ga.: "Canned food is a godsend for a bride until she has had

time to learn to cook. By that time she's devoted to canned foods—so, how can she live without them!"

Columbia, S.C.: "I'm not what you call a hurry-up cook for my family likes food that tastes and looks like food. Yet I use lots of canned foods because of their quality, convenience and flavor."

Cambridge, Md.: "I prefer canned vegetables to fresh because they cook faster, have good flavor, and are cheap for all you get."

Almost no one thought canned foods expensive but rather blessed them as real aids to the budget.

A New Bern, N.C., homemaker says, "Canned foods are economical, take less fuel to prepare. Besides they give the housewife more time to work or to improve her mind."

Maybe you're missing an advertising theme: "Canned foods—the thinking woman's choice!"

THE SURVEY

Our first survey question was: "When you buy canned foods (fruits, vegetables, juices, soups, canned meats, etc.) what do you expect in the *quality* of these foods?"

As a kind of check on this question and to draw out other opinions, another question was this: "What do you expect or look for when you open a can of food? Is it flavor, appearance, color, or what? Which is especially important to you and why?"

Since these questions overlap, I've condensed the answers accordingly. Perhaps, the things customers emphasize will be entirely out of proportion to the emphasis you men place on them. Perhaps, too, customers totally disregard some factors you "professional canners" think are of great importance. If so, the only explanation I have is, what "sells" a woman is different from what "sells" a man.

FLAVOR

First on the list of how consumers measure quality in canned foods is flavor. Almost every respondent made some comment about flavor. And twice as many listed flavor more important than appearance and/or color. Then they dropped off into many other comments about quality:

A Griffin, Ga., woman said, "I think most people *hope* when they open a can of food (to save time) that it will taste as good as if they had prepared it themselves from fresh fruits, vegetables, etc."

"Often I have been disappointed when I opened canned peas and corn because the peas are too mushy and the corn too soupy."

"I try to learn to shop for brands that will not disappoint me. However, there are too few of these."

From Tallahassee, Fla.: "Flavor, appearance and color are very important. After all one can turn to the frozen foods nowadays. On the other hand, the can opener is a life-saver. Certainly justifies its existence!"

Another from Columbus, Ohio, wrote: "I expect a firm, fresh looking fruit or vegetable with nice color and not too much juice or water. Most important, though, is flavor. This indeed is the final test. If the taste isn't to our liking, I can't afford to buy it again."

Other frequent comments were:

"It ought to taste like its name—chicken soup like chicken not celery."

"Why can't canned vegetables taste 'home-grown'?" (There's a flavor assignment!)

"There are still many canned foods not as flavorful as the fresh or frozen ones, such as asparagus, baby limas and peaches."

One of our mature Charlotte, N.C., women asks: "Can't the taste of canned milk be improved? It's had the same 'not fresh' flavor for 25 years, I know of. With all our scientific knowledge, can't this flavor be improved?"

A LaGrange, Ga., woman: "Can't you make fruit cocktail taste like fruit instead of something soft and sweet?"

A Columbus, Ohio, shopper: "Can anything be done about the metallic taste in some canned vegetables?"

"Why doesn't the liquid or juice have more of the flavor of the food? I think most women pour this juice off because it doesn't taste like anything."

Along this same theme was the recurring comment about the syrup on canned fruits. Many consumers think the syrups are too sweet and too flavorless. Several suggested a thinner syrup, with fewer calories, but with a fresh fruit flavor. Two women suggested fruit flavor additives.

We constantly see excellent improvements in the world of convenience foods. Manufacturers have learned that convenience alone will sell a food product once—only *taste appeal* will sell it twice.

It would seem to me one of the biggest problems facing the canned foods industry is the improvement in the flavor of its products—to make these foods taste *better* and *better*—thus assuring a more secure place for canned foods in Mrs. Consumer's shopping cart.

APPEARANCE

An Atlanta homemaker put it in a nutshell when she wrote: "When you open a can of food it should make you want to eat it right away."

Just think what would happen if every can of food had the appearance, color and flavor that would make you want to eat it as soon as it was opened!

Other consumers sent these ideas: "The appearance of canned food gives the first impression of quality."

"If food doesn't look good when I open the can, I know it won't taste good."

"Food ought to look fresh when the can is opened—not dried or gray-looking."

"If canned food doesn't look good when I open it, I would assume it did not taste good. And if it didn't smell good, I wouldn't use it."

Here are other frequent survey comments which indicate the eagle eye women use on canned fruits and vegetables:

"I expect canned fruits and vegetables to look and smell like the foods they are."

"Canned fruits and vegetables ought to be as nearly like the fresh food as possible. That's what determines quality to me."

The appearance of food when the can is opened is very important. It ranked second on the list of what consumers look for and expect in determining quality.

COLOR

Many consumers indicate they use color as a measure of quality. They expect canned food to "look natural" as a woman from Raleigh, N.C., expressed it.

LIQUID IN CANS

There were dozens of comments about the liquid in the cans. Consumers expect a good volume of food in proportion to liquid, not a can half full of juice. They mentioned, too, that the juice should be clear and not have a cloudy, questionable appearance.

Some said it another way, such as the lady from Lexington, Ky.: "I expect a full pack for the size can. That's how I decide if its top quality and a nice buy." Or, "I do wish on most canned fruits that they were not so full of juice and had a little more fruit."

NUTRITIVE VALUE

One of our respondents from Cincinnati, Ohio, wrote: "I expect foods to be canned to retain their vitamins, minerals and food values."

This seems to sum up what others thought. Consumers *expect* canners to take the responsibility for keeping the *nutritive value* of foods high.

They may not know the "Basic 4 Food Groups" and they may have only a limited knowledge of nutrients and nutritional needs, but they do want canned foods they buy to be "good for the family."

One woman in Jacksonville, Fla., put it this way: "I expect canned food to be *tasteful* and have *good appearance*."

ance for my three small ones and my husband to eat it and enjoy it. Also, for my family to receive the food value that should be contained in that particular can of food."

CLEANLINESS

Women love you for the high standards of cleanliness you've set and maintained these many years. *In fact, it may be a virtue for which you don't get enough credit.* Women just take it for granted canned foods plants are tops in sanitation and cleanliness. They expect the industry to be perfect. No doubt that's why they make such a loud fuss when one little piece of corn cob, or a string from a bean is found in a can.

A woman in Winston-Salem, N.C., says: "I expect cleanliness above all, no foreign matter in food."

A Wilmington, Ohio, homemaker says: "I expect food to be well prepared for canning—fruits without bits of skin, corn without silk or cob, beans without strings. Remember when customers are disappointed in canned food, they will not analyze it. They'll just not buy again."

Texture, size, and firmness of fruits or vegetables, the inside color of the can, odor, etc., were of enough concern to some consumers that they made comments about them.

BRANDS

Canned food brands seemed to be a very dependable buying guide for consumers. They say things like this: "I never worry about quality because I buy only the best brands." (Scores of women said this.)

From Atlanta: "My experience has been that I have far better results by buying leading brands or in some instances private label brands for best quality."

A woman from Norfolk, Va., says: "My grocery order consists of many brands because quality varies so much with brands."

Or, from Chattanooga, Tenn., the consumer says: "I've learned top quality brands are actually the cheapest for me. When I buy these, all the food is eaten; none is wasted. That's more than I can say for lower-priced brands, half of which has to be thrown out."

FOOD ADDITIVES

Very quickly I'd like to slide over the subject of food additives. I know that's thin ice and I'm not a good ice skater so I'll just say this: Women are concerned about what is added to canned food and why. Our consumer mail indicates some of these questions come up in relation to certain diets or allergies.

Other questions arise relative to the value—goodness—or even ethics, of food additives. Many express a desire to have this information clearly stated on the label.

LABELS

This leads me to the last big point of our first and third questions about what consumers expect in quality. It has to do with labels.

A Richmond, Va., woman wrote: "I think the contents of a can ought to agree with the quality described on the label."

A very wise Wilmington, N.C., shopper says: "I would like to be assured canned foods will look and taste as good as they are portrayed on the color labels. Recipes on the labels, too, often influence my purchase."

Over and over women indicated the food pictures on the labels sometimes are much more attractive than the food inside, hence often very misleading, they feel.

CONCLUSION TO THIS PART

Although I've dwelt on some of the negative comments, I hope you'll forgive me. At least you have some idea of how women judge or measure the quality of your industry's products.

Since today's homemakers have to do their own readin' and 'rithmetic in supermarkets, I'm delighted they are such keen consumers. They help to keep me on my toes.

QUALITY VERSUS PRICE

Another question on our survey was this: "Which groups of canned foods do you think have the best quality for the price?"

This is where you got bushels of compliments, for by and large, women think canned foods have good to excellent quality for their price.

A county home demonstration agent asked her homemaking clubs these same survey questions. If you know anything about home demonstration clubs, you know they're women really interested in food. This is what the agent wrote me: "Women in my county all want good quality for the price. All want increasingly better quality products and if possible for less money—but that's like a woman. Price is very important to all interviewed but good quality is more important."

In our survey women thought these foods were best for the price, and in this order:

1. Canned soup
2. Canned milk
3. Juices
4. Vegetables
5. Baby foods

Canned fish, meats, tomato paste and sauce, and pet foods also received many votes.

Modern consumers are willing and do give most new foods a thorough-going try. But, they'll only accept these foods and buy them again if they meet their standards of quality in relation to price.

I was interested in the comments made about the new specialty items, gourmet items, etc. Ever so many women think they are far too expensive for the quality. Many said these items were the poorest in canned food quality.

Just recently we tested two new canned specialty products. In areas where they are being introduced the ads say both products are very special. But when we conducted blind taste tests in our Nancy Carter kitchen, no one of 19 testers could tell us what it was they were eating. They couldn't identify the flavor, and didn't believe it even after we told them!

If this is typical, then canners thinking of introducing new items may want to take a new look at their products, making sure of the flavor, appearance and quality.

SUGGESTED IMPROVEMENTS

When we asked, "What improvements in canned food items would you like to have?" the list was long and extremely interesting.

I was surprised at the number of things women wanted that are already available.

Maybe we will have to do a better job of telling our product story and of displaying the items in retail stores so women are aware of them.

By and large consumers answered this question by saying canned foods are tops. A lady in Asheville, N.C., said: "Canned foods on the whole are wonderful—a tremendous help—terrific saving of energy and money."

Or this from a Sea Island, Ga., bride: "I like all the canned foods. I can fix a balanced meal in a matter of minutes."

However, women are not blind to the fact they still would like certain improvements and/or changes.

FLAVOR

As you may expect, improvement in flavor of canned foods was mentioned most often. Perhaps this was natural because in an earlier question women said flavor was the most important criteria they used in judging quality. Briefly these were the most frequent comments for possible flavor improvements:

"Less onion and seasonings in some of the soups, meats, etc. so they can be served children and oldsters who don't like or can't have highly seasoned foods."

"Canned soups could have less salt for children's taste. Also since I use many canned soups as sauces in other dishes already salted this presents problems."

"To me canned vegetables need greatest improvement in flavor." (By the way, the ones most frequently mentioned were green beans, wax beans, corn, canned potatoes, peas.)

CONTAINER SIZES

Another suggested improvement related to can sizes.

They indicated a desire for a larger or "family size" can of the more popular items such as tomatoes, spaghetti sauces, tomato puree; fruit and vegetable cans to hold 6 servings so families could have second helpings or for bigger size families needing 1½ cans, cans of soup to serve 4.

Small size cans had their advocates, too. From Spartanburg, S.C., a homemaker writes: "I'd like greater variety in foods canned in 8 oz. cans to serve 2. Sometimes I serve the children one vegetable while we adults have another. Or, sometimes there's just one child at home for lunch with me and big cans are so wasteful."

Others said: "Why not cans of soup for 1 serving." "Canned meats in small cans for 2 servings."

A service man's wife wrote: "Bless those little individual cans of juice! We've raised our children on these cans of juice and a straw. They've saved me much work and dish washing and the variety keeps all the children satisfied."

The question of larger cans or small cans may seem inconsequential, but isn't it another opportunity to expand markets?

The automotive industry belatedly learned there is a market for a smaller automobile than they had ever built. A demand for smaller, less expensive, more economical operating little cars.

On the other hand, drug companies found a new market in a large family-size package of 500 aspirin rather than the little package of 12 aspirin.

New sizes can mean new markets—increased sales.

DIFFERENT PACKAGING

Other suggested improvements were interesting to me:

From Durham, N.C.: "Easy opening cans—perhaps with a key—for those women who have arthritis and find it hard to use can openers."

From Atlanta, Ga.: "I'd like more foods in square cans because storage space is at a premium in modern kitchens."

Labels with a larger print, more informative copy, more recipes, and better instructions for using or serving the new canned products were mentioned over and over. As a member of Colonial Stores label committee, you can be sure I'll make the most of those letters!

Consumers would like more variety in canned meat items, and better ones, too. They'd like more meats which could be used as the main meat dish of a meal; they'd like more meat—less gravy or vegetables—in the present canned "made-meat dishes."



MRS. AGNES R. OLNSTEAD

(Don't feel too badly, for this is the same criticism women make of frozen meat and poultry pies.)

Apparently consumers would like to drink their fruits and vegetables, for they frequently asked for greater variety in vegetable and fruit juices but, if possible, without a "tinny" taste as they call it.

A very real problem we all face is how to explain the differences in canned foods from one year to another. Somehow consumers don't realize that sun, wind, rain, drought, and all the other natural elements can make peaches naturally wonderful one year but a variance in these elements might produce peaches of less quality another year. So this complaint often arises: "Such and such a brand has certainly lowered their quality. The peaches last year were so perfect but when I opened a can today the peaches were soft, smaller, and not nearly as 'pretty' and I paid more for them too!"

THE CONSUMER IS BOSS

In today's keenly competitive food market place, product thinking, planning, and evaluation must start at the consumer end, rather than at the production end. In this day and age something must be added to most products or they must be constantly improved if they are to attract and hold customers.

The challenge every segment of the food industry faces is to take a long look at their products with this question: "What can we combine, add, blend, interweave, inject, insert, build-in, or otherwise incorporate to satisfy today's demanding consumers?"

We feel certain that tomorrow's consumers will have much to continue to thank the canning industry for:

Even better quality foods,
Even wider variety,
Foods easier and quicker to prepare,
And, with less and less chance of poor quality.

Certainly there's no lack of research and development on your part. You're conscious of the need for constantly increasing the quality of canned foods to maintain the prestige position you enjoy. Yet aware, too, that you have increasing competition from other segments of the food industry.

The consumer dilemma is not so much which canned vegetable to buy, for instance, but rather, "Shall I buy canned, fresh or frozen vegetables? Which will be the best?" Every time a woman starts wheeling her shopping cart through a supermarket, she's confronted with 5,000 or more products. Each product is eager for her business. The best way to get that business is to give her what she wants in a little better way than the other products do: in the case of canned foods—fresher, truer flavors, more eye-appeal, etc.

No one can take 1960 customers for granted. Customers are not just statistics. They're living, breathing women. They cook and clean, and love and dream, and maybe nag a little now and then.

These customers are wise, and free—free today as never before to switch from one product, one brand, to another—from canned foods to fresh foods to frozen foods.

Now, I'd like to close with one final letter from one of your ardent consumers in Atlanta:

"Dear Sirs:

"Thank you for writing to ask my opinion about what consumers expect in the quality of canned foods.

"I have a deep, sincere respect for all you have already done to give homemakers like myself better canned foods year after year.

"But, you're asking me to spend my money for your products so I get mighty realistic and frank in my opinions. Yet, I don't know how I'd live without canned foods, so I just want you to keep making them better.

"Like you men, I work for a living and have a similar purpose to keep bringing good food to the American homemaker. To help make her life a little more pleasant and a little easier.

"The progress of the canned food industry is of as much concern to me, as to you—because I'm both a consumer and a stockholder!

"Sincerely,

"Nancy Carter"

Quality Control Techniques Available to the Average Canner

By Bruno A. Filice
Filice and Perrelli Canning Co.

The best way to begin a discussion of quality control in any of its facets is to define exactly what we mean by quality control. It is, definitely, the control of factors that please the consumer's eye and taste, and the attempt to maintain these factors as uniformly as possible. A very important phase also concerns the control of factors that involve the economics of food production; namely, the case yield from a ton of raw material, the grade yield so that the highest possible quality is packed from a given lot of fruit or vegetable, the pounds of sugar or other added ingredient used in a case of the product, and the direct labor required to effect these results. Also, an important phase concerns the satisfaction of certain requirements of grade standards and regulations, as set forth by the various regulatory agencies of our government and industry. By attaining control of all of these factors, the consumer is assured a tasty canned product of consistent quality and at a reasonable price. Furthermore, the canner and grower are assured a reasonable return on their investment of time and money.

Time does not permit a thorough discussion of the full subject of quality control techniques available to the average canner, but it does permit a discussion of two aspects of quality control which have helped improve the uniformity of quality of the products canned by our company, thereby assuring our consumers a better buy in the quality they purchase. With this has also come an improvement in the efficiency of our canning operation.

These two aspects are associated with the institution of a statistical quality control program within our plants, and a program of raw product control as recommended by the various research institutions available to our industry.

Great strides have been made in our plants in instituting a system of statistical quality control, permitting us to evaluate the quality of our products with a high degree of accuracy. In this system, small random samples are selected from the line and evaluated statistically both before and after canning for fill weight, drained weight, syrup cut-out, color, size, count, texture, and absence of defects. Also, it is possible to evaluate statistically certain chemical, physical, and microbiological tests, such as sugar-acid ratio, vitamin C content, total solids, pH, consistency, and mold counts.

The words "statistical quality control," and variations thereof, imply a complicated mathematical procedure involving difficult calculations and the

use of complicated computers. The basic theory does involve these, but fortunately, the procedures have been simplified. Now, personnel with a knowledge of elementary algebra and the ability to work with tables and graphs can apply the statistical quality control techniques as explained in the various texts available on the subject. What is necessary is a thorough knowledge of the operation to be controlled.

In our operation we found we were already collecting the basic data which went into our application of the procedure. The data collected was being used to give an indication of what was happening to a particular operation but, unfortunately, this indication usually became evident too late or was being interpreted variously by personnel to whom this data was available. Erroneous and costly changes were sometimes being made as a result of this. What was needed was a system of evaluating an operation at the time it was being performed and without bias.

As for personnel requirements, we found that we already had personnel in our quality control department conducting these measurements and collecting data. All that was needed was a change in the way the data was being used. Also a thorough briefing of all personnel involved was necessary, since it was imperative to have complete understanding of our control program from the management level to the people actually working on the operation. We found difficulties in the application of this technique only when personnel on the production line were not thoroughly familiar with the objectives of the procedure.

In our program of statistical quality control, we have taken the classical applications of the technique and have applied them with necessary modifications to result in a working system. Most of our applications employ the use of a modified variables control chart with special emphasis upon the individual values and the interpretation of the plot of the data. Also, certain modifications to the control limits employed were necessary for an effective program.

TYPICAL APPLICATION

What follows is an explanation and illustration of the type of control possible in canning. This application involved canned peaches, but could apply to any canned fruit or vegetable.

One important application of statistical quality control concerns the control of the fill weight of the container, i.e., the amount of fruit or vegetable product placed into the can prior to processing. We were aware of the fact that our filling operation was

subject to variation. Further, we felt that if statistical quality control could be applied satisfactorily in a cannery, certainly it would be effective in fill weight control.

U. S. Food and Drug regulations require that, in the case of most fruits, the can be filled with fruit ingredient as full as practicable without impairment of quality. This is also incorporated in the U. S. Department of Agriculture standards for grades for most canned fruits.

Figure 1 shows a plot of the fill weight of 50 individual cans of sliced yellow cling peaches in size 2½ tins, selected in subgroups of 5 at random, all filled as full as practicable by the women operating the hand pack filler before the institution of a fill weight control program. The filler was operated at approximately 85 cans per minute and the samples were selected over an 8-hour period of operation. All cans appeared to be well filled to the inspectors on the line. The required fill in this case was 18.5 oz. The put-in syrup was 37° Brix, in order to cut-out within the range of 19-24° Brix for heavy syrup. The processing time was 23½ minutes at 212° F., followed by water cooling to 100° F.

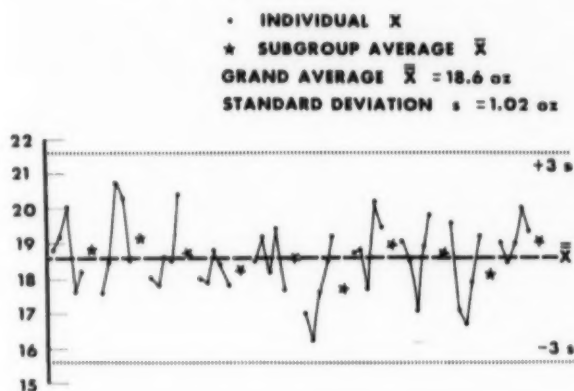
Five samples were selected from these 50 cans, representing five different fill weights covering the entire range of the data, and after 90 days they were evaluated for drained weight, syrup cut-out, and tenderness. These factors of quality are of concern to both consumer and producer. In addition, a random sample was selected from the total lot of finished product and evaluated for the same factors after 90 days. The data in Figure 2 represents the findings of the selected samples A to E and random samples 1 to 10. Subsequent replications of the experiment revealed excellent correlation between selected and random samples.

The data indicates what happens to sliced yellow cling peaches when the fill weight of an apparently well filled can varies over an extreme range. Sample A represented a can with a very low fill weight; thus it yielded a low drained weight. It received more syrup volume in proportion to fruit, and therefore, would have tasted sweet—perhaps too sweet. The light fill caused the can to receive an excessive process because of more agitation within the can. Sample C was the ideal can, in that its drained weight was well over the recommended minimum in the U. S. standards for grade, and represented the fill weight desired. It had a good syrup cut-out and good texture. Samples B and D were very close to ideal sample C. Sample E represented cans of very high fill weight; consequently, the syrup cut-out was low—too low for the grade and the fruit was firm, probably due to underprocessing because of the tighter pack within the can. The findings in random samples 1 to 10 corre-

FIGURE 1

Fill Weight Control Chart of Size 2½ Cans
of Sliced Yellow Cling Peaches before
the Institution of a Control Program

(Sampled in subgroups of 5 individual cans over
an 8-hour period)



lated quite well to the findings in
samples A to E.

REDUCING VARIATION

From the data it can be seen that if extreme variation can be reduced, a product of more uniform quality can be produced. A fill weight control program was then applied to this filler operation, and after two days the control chart revealed that the variability of the fill weights had been reduced considerably (see Figure 3). Essentially, this was accomplished by thoroughly explaining to the women on the filler operation and their immediate supervisors the workings of a fill weight control chart. We explained that we were going to main-

tain a constant check at random on each filler. It was made clear that this check was not made to criticize their work, but to help them reduce the apparent differences in the fill weight of cans being produced. We explained to the supervisors that they were to discuss fill weights with the filler operators only when they were out of control. This helped considerably, since it became apparent that some supervisors were over-supervising the operation. Other minor changes were made, but mainly the control was accomplished by a thoroughly cooperative effort on the part of the filler operators, supervisors, and quality control personnel. Also, somewhat of a competitive spirit developed as the women began to see

FIGURE 2

Comparison of Certain Quality Factors in Size
2½ Cans of Sliced Yellow Cling Peaches in
Heavy Syrup where Filling Operation
Lacked Proper Control

	Fill Weight	Drained Weight	Syrup Cutout	Tenderness
Selected Samples				
A.....	16.2 oz.	16.2 oz.	23.0° Brix	Soft—some very
B.....	17.5	17.4	21.7°	Good
C.....	18.5	18.4	20.8°	Good
D.....	19.5	19.2	20.1°	Good to firm
E.....	20.7	20.2	18.8°	Variable—some too firm
Random Samples				
1.....	Unknown	17.3 oz.	22.0° Brix	Good
2.....	Unknown	18.5	20.8°	Good
3.....	Unknown	16.6	22.6°	Too soft
4.....	Unknown	19.4	20.0°	Firm
5.....	Unknown	17.9	21.5°	Good
6.....	Unknown	18.8	20.5°	Variable
7.....	Unknown	20.4	18.8°	Very firm
8.....	Unknown	18.0	21.4°	Good
9.....	Unknown	18.3	21.3°	Good
10.....	Unknown	19.0	20.3°	Slightly firm
Average.....		18.4 oz.	20.9° Brix	
Standard Deviation.....		1.00 oz.	1.08° Brix	

the results of their efforts on their control charts. We had gained the confidence of the women on the fillers, and they appreciated the fact that we showed them exactly how their fillers were performing.

A random sample of the product processed at this time was examined after 90 days, and the data was most revealing. It is obvious that findings depicted in Figure 4 are more desirable than those in Figure 2. The average drained weight was much less variable and slightly higher, with subsequent replications proving this to be significant. The syrup cut-out was much more uniform, producing a more uniform level of sweetness. The tenderness of the product rated high for all cans.

FIGURE 3

Fill Weight Control Chart of Size 2½ Cans
of Yellow Cling Peaches after the
Institution of a Fill Weight
Control Program

(Sampled in subgroups of 5 individual cans over
and 8-hour period)

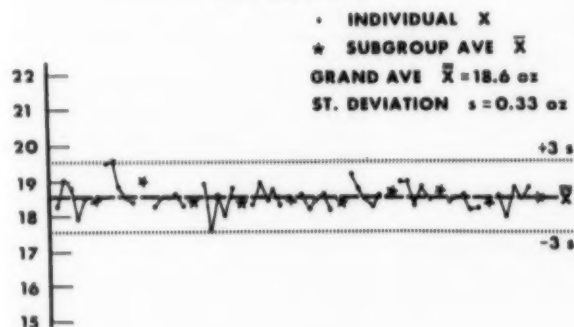


FIGURE 4

Comparison of Certain Quality Factors in Size 2½
Cans of Sliced Yellow Cling Peaches in Heavy
Syrup where Filling Operation Was in
Statistical Control

	Drained Weight	Syrup Cutout	Tenderness
Random Samples			
1.....	18.4 oz.	21.0° Brix	Good
2.....	18.6	21.1°	Good
3.....	17.9	21.6°	Good
4.....	19.2	20.0°	Slightly Firm
5.....	18.5	20.9°	Good
6.....	18.5	21.0°	Good
7.....	18.4	21.2°	Good
8.....	18.7	20.9°	Good
9.....	18.8	20.6°	Good
10.....	18.6	20.9°	Good
Average.....	18.6 oz.	20.9° Brix	
Standard Deviation.....	0.32 oz.	0.40° Brix	



BRUNO A. FILICE

A canner with facts as presented in Figures 1 and 2 is faced with a quandary. Should he raise or lower his fill weights or his put-in syrup? Should he extend or shorten his process? Many times erroneous adjustments could be made, based on the findings biased by extreme conditions of very high or low fill weight, as shown in Figures 1 and 2. This might result in wrong decisions, and therefore, would be very costly. However, a canner faced with the facts as presented in Figures 3 and 4 can make an intelligent evaluation of his operation, with resultant improvement in quality and cost.

This is an excellent example of the effect of attaining statistical control on one quality factor—fill weight; thereby attaining automatic control

on three other quality factors—drained weight, syrup strength, and tenderness.

Last June the Agricultural Marketing Service of the U. S. Department of Agriculture promulgated a regulation incorporating this concept of fill weight control in determining the fill of container for canned freestone peaches. After one season's operation, I'm happy to report outstanding results in using this procedure, which was quite similar to the methods just discussed.

OTHER APPLICATIONS

We applied similar techniques to all fill weights of products we pack with very satisfactory results. We also applied statistical methods of pH control of canned figs, where the pH has to be maintained within certain levels to conform to a U. S. Food and Drug standard of identity, and we were able to minimize the variability of our readings.

Total solids control for tomato products lend themselves to this type of technique, often with amazing results. Figure 5 shows a control chart utilizing moving averages, whereby we compared one vacuum pan operator with another. The product is tomato paste. From this chart we are able to determine that operator A was over-adjusting his vacuum pan instruments to the point where he was introducing variation in solids far more than consistent operator B. We have had similar results using this technique on other products requiring solids control.

We have also applied SQC to our labeling lines, in an effort to track down faulty labeling. After several weeks a report was made to management that labeling defects such as dog-ears, loose labels, mis-matches, and torn labels were minimized, as shown in Figure 6. Labeling is an

important package quality factor, since an attractive, neat package is a prime requisite to induce consumer impulse buying.

After attaining fill weight control, in addition to subsequent control of the other factors, we became convinced that part of the variations exposed by our statistical quality control charts were attributable to extreme variability of the raw material we were processing.

USE IN RAW PRODUCT RESEARCH

I would like to explain one aspect of raw product control which has given us excellent results. Here the product is canned pears, but the procedure could very well apply to other fruits and vegetables.

Before the mid-1950's the quality of most canned Bartlett pears was subject to wide variation. We were aware of this and, therefore, canned only sufficient pears to satisfy limited trade. We were convinced that our problem in canning consistent quality centered around the great variability in the raw material. Obviously, this condition was not conducive to consistent quality and efficient plant operation.

A growing need to expand our packing volume and extend our season led us into an expanded canned pear program. In order to satisfy this increased volume of production, we began a program of research to see if the question, "How can we improve the quality of our pears?" could be answered.

Pears had variabilities not easily reconciled to the quality desired from the canning process. They did not ripen evenly, and we usually had to process a mixture of maturities within a given lot. If we tried to ripen them all to a proper maturity, we lost many due to soft centers caused by over-ripeness. Because of this, a poorer case yield resulted. More help was needed to yield a uniform, high quality pack. Too much fruit was being canned in lower grades and nectar. Also, the flavor and texture of the pears was inconsistent because of this variation and lack of ripening control. This increased our over-all cost of operation, and quite frankly, management was not happy with our pear canning procedure.

Something had to be done. We consulted the University of California research staff at Davis, Calif., concerning our problem and became acquainted with a pear research project being conducted by Dr. Lawrence L. Claypool of the Department of Pomology and by Mr. Sherman J. Leonard and Dr. Bor S. Luh of the Department of Food Science and Technology. Essentially, this project had established a definite correlation between the maturity of pears at the time of harvesting, the ripening procedure employed, and the ultimate quality of

FIGURE 5

Moving Average Control Chart for Tomato Paste from Vacuum Pan Operation Comparing Relative Control of Concentration by Two Operators over 16-Hour Period

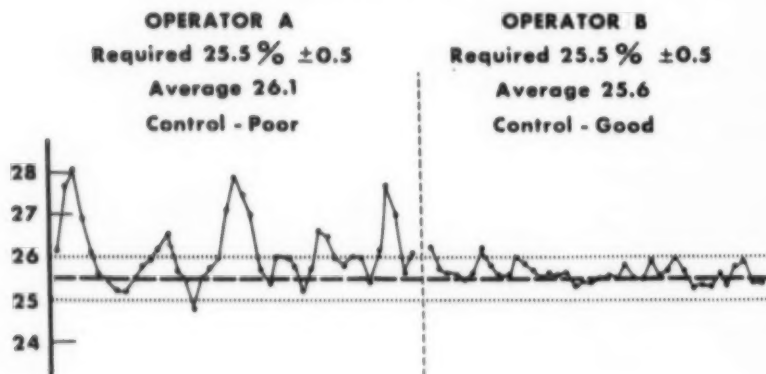
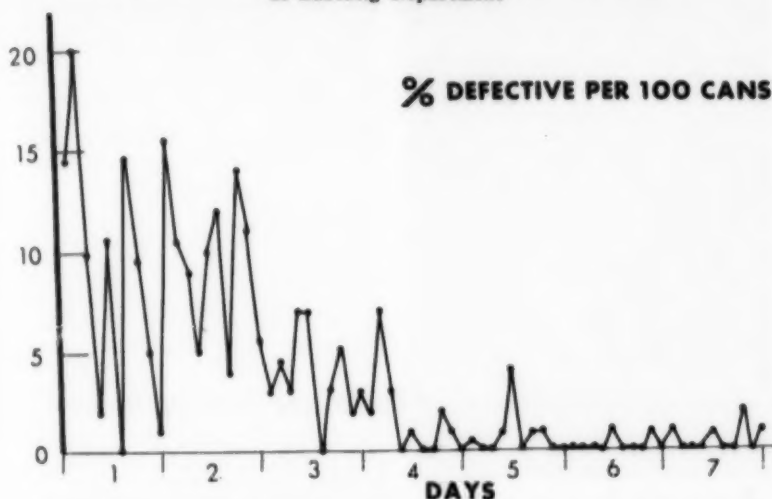


FIGURE 6

Control Chart for Percent Defective Labeling of 2½ Cans
at Labeling Department



Drop in percent defective was caused by simple label machine adjustment as indicated by control chart.

the canned product. By careful selection of the raw material according to maturity as determined by pressure test, and by careful cold storage and subsequent ripening, an excellent canned quality was attainable.

(The pressure test measures the pounds of pressure required to penetrate the flesh of the pear with a blunt-nosed, spring loaded probe.) We immediately developed plans to adopt the recommendations of the research staff of the University of California.

We equipped each of our field men with a pressure tester and held a training session on its use and misuse. We talked to each pear grower individually and impressed them with our objectives. Here, fortunately, the farm advisors of the University of California Extension Service in the pear growing areas were valuable to our cause, in that they were able to advise the growers of the gains possible by following our program. We found the picking practices varied tremendously, and that any number of reasonable criteria were used for determining the time for picking. As a result, pears were being harvested over a wide range of pressures—anywhere from 25 pounds to 10 pounds. This accounted for the poor performance in storage and during ripening, and for the mixed degree of ripeness at the time of canning. The pear ripening curves in Figure 7 illustrated our experience with the ripening of pears at various pressure levels. Readily apparent is what happens when an attempt is made to ripen pears of mixed maturity. Some will ripen in 4, 5, 6, some as late as 7 days or more.

SAMPLING FRESH FRUIT

We developed a reasonable sampling procedure for determining the pressure test of the picked pears. We carefully recorded the low, high, and average pressure tests of a given lot of fruits in a master log book, which was maintained by our fresh fruit department. In addition, we also recorded this information directly on each lot. We advised the grower to commence picking when the pressure test averaged approximately 19 pounds and we urged him to finish picking his orchard before the tests averaged less than 16 pounds. Lots which showed extreme variation in pressure tests were assigned a special lot tag and were diverted for use in packs where factors of uniform maturity were not as important.

All of the lots went into cold storage from three weeks to almost three months, since our pear canning season usually extends into November. We decided, after consultation with the University of California staff, that the pears having the lowest pressure test would be those most apt to give trouble during lengthy storage periods and during ripening. Therefore, we drew them out of storage first for ripening and canning. Those of higher test were held until October and November for canning. It usually worked out that those picked first were the highest and most uniform in pressure test, and therefore, remained in storage longest. This was directly contrary to the old rule of thumb, which said, "first into storage—first out." Easily imagined are the difficulties that arose in the past by using this rule.

All fruit was removed from storage according to pressure test. The fruit that averaged between 16.0 and 16.5 was removed in a group, between 16.5 and 17.0 as another lot, and so on. The pears were then graded for size and allowed to ripen to a pressure of between 2 and 3 pounds optimum maturity.

Each day during the ripening period a sample was removed from each lot and pressure tested. This data was plotted and evaluated, and allowed us to predict the ripening time with a great deal of accuracy. As mentioned earlier, loss in storage and during ripening practically disappeared, where before it was a serious problem. Ripening was more uniform and the ripening cycle was predictable to the day, with minor exceptions.

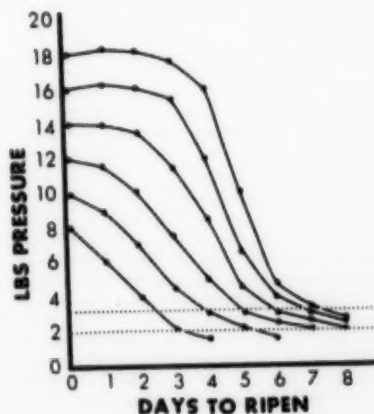
BETTER YIELD AND QUALITY

Before we adopted this procedure, our case yield from a ton of pears was about the average for the industry. After the full adoption of our new pear control program, our case yield increased 13 percent over the yield of three years before, simply due to a change in our raw materials handling practices. As for the grade yield, we have been able to pack increasingly more Choice and Fancy grades and less Standards, seconds and nectar. We also determined, as a result of having a uniform maturity at time of canning, that our fill weights and syrup cut-outs were being maintained more uniformly, thereby having favorable effect on cost and consumer acceptance.

How about consumer acceptance? We have had excellent acceptance of our pear products. Our sales reports for this product have been the cause

FIGURE 7

Ripening Curves for a Lot of Bartlett Pears at Harvesting Maturities of Various Pressure Tests



Optimum maturity for canning is between 2 and 3 pounds pressure.

of a great deal of satisfaction to those in our organization who instituted the procedure just described.

Discussed above is an example of a problem solved through a quality control program that began in the growers' orchards and continued through all phases of storage, ripening and final canning process. The benefits are well distributed. The grower has a continued high demand, and consequently, a higher price for his produce; the canner a reasonable return for his time and effort; the retailer a canned pear that will turn over rapidly; and the consumer a delicious dessert or salad at a reasonable price.

Our pear control program is an excellent example of what can be done through application of research, and cooperation among agricultural industry research institutions, growers, fieldmen, farm advisors, and canners.

USE OF SQC INCREASING

Fortunately, an active program is now under way to expand statistical quality control into the raw materials field. A committee of the National Canners Association at the Berkeley, Calif., laboratory has been engaged in furthering the application of this tool in food production. Through cooperation with Dr. Gordon A. Rowe and Robert C. Pearl of the Agricultural Extension Service of the University of California, this N.C.A. committee is now planning a series of seminars on the application of statistical quality control to raw product evaluation and control.

A great amount of data on the variability of certain quality factors in tomatoes, namely, the pH, total solids, color and size, is now in the process of being evaluated, with the hope that this information will be the basis for a raw product control program for canned tomatoes and tomato products.

The two aspects of quality control discussed are the two which have demonstrated to our management the importance of applied research for quality control over all the products we pack. The application of statistical quality control demonstrated that to evaluate a process without bias invariably results in better quality and more efficient operation. We now control the extreme variations that occur between cans in a given lot of canned product. As a result, decisions regarding pertinent changes required for a particular operation are statistically the right decisions. Continued research into variations made evident by our control charts convinced us that to study the variability of certain quality factors of the raw material we were processing is important. Here lies a very important field of research, the study of the variability of the raw fruits and vegetables which we

process. We proved the gains discussed earlier are possible, and I'm certain that the consumer and the farmer have also benefited. We are definitely continuing to expand these procedures in our plants and orchards, with the conviction that similar benefits will be enjoyed by consumer, canner and grower.

Another field of applied research in quality control concerns the possible application of electronic equipment, employing radioactive compounds as a means of controlling certain processes. Already this equipment is showing promise in the fields of solids control in tomato products and level control in liquid conveying systems. The application of this equipment in a cannery operation is a major step

in the gradual automation of certain operations in our industry.

At this point it is apparent that the canners are becoming aware of the fact that research, properly conducted, is of tremendous value to the future of our industry. The progress we make, as an industry, in applied research is the assurance that we will continue to provide consistent quality canned foods to the consuming public at a reasonable price.

I want to acknowledge the assistance of the staff of the N.C.A. Western Laboratory, the N.C.A. Statistics Division, the University of California Department of Food Science and Technology, the Department of Pomology at Davis, Calif., and Agricultural Extension Service at Berkeley, Calif.

Quality Protection with Statistical Quality Control

By Ian MacPhail,
H. J. Heinz Company

Statistical quality control with the H. J. Heinz Co., has changed to a great extent in the years of the operations we were doing 10 years ago. It has given us what might be termed a new dimension in quality control work. The methods used and the presentation of the information has helped operating personnel and others in such a manner that they can better understand some of the objectives. Kindly do not get the impression we are entirely satisfied with the way statistical quality control work is progressing. However, when the over-all progress is considered there are many areas of the Heinz business which make good use of statistical quality control techniques. In addition, many people in our organization have been exposed to the methods over the past few years and this is important. In some departments statistical quality control charts and procedures have helped to focus attention on the fact that a certain situation could and should be improved.

When information is collected in a regular manner at a manufacturing operation or inspection station, the facts can also be presented in a more precise manner by the use of charts.

I feel we should also point out that a few areas have shown only a mild degree of interest toward statistical quality control and under these circumstances progress is very slow. But we have made progress and a few examples may be of interest.

CONTROL OF VINEGAR ACIDITY

This investigation is of special interest because it started off as a method to control headspace in bottled vinegar. For example, we want to have all pint or quart bottles of vinegar filled to a standard headspace—at least within close limits—so that

the bottles on the shelves will be uniform in appearance. Factories prepare their data reports; these include a record of headspace measurements, variations of acidity, and a frequency distribution of acidity tests and this was for each of five factories filling bottled vinegar.

Strong vinegar is stored or aged in large capacity tanks in order to develop a bouquet or mellow flavor. Previous to the bottling operation the strong vinegar is diluted or reduced with water to the desired standard acidity. Bottled vinegar is labeled 5 percent acidity; however, the Heinz specification for acetic acid strength was 5.1 to 5.2 percent. As you can see, this allowed a slight cushion or safety factor for a factory which might have tests slightly under 5.1 percent.

A study of the data showed two of the five factories filling vinegar did a very good job controlling the acidity to the specification, 5.1 percent to 5.2 percent, maintaining the average at approximately 5.15 percent. The other three factories filling this product also maintained much the same over-all average acidity; however, the range of hourly tests was much wider. It was felt that if two factories could maintain a narrow margin of fluctuations centered around the desirable mean of 5.15 percent, the other factories should be able to duplicate this performance. This was accomplished within a short period of time.

The next step was to consider the possibility that once the proper control stage was reached at 5.1 percent to 5.2 percent, then the specification should be revised to read 5.0 percent to 5.1 percent. This was done some time ago. As you all know the presentation of information of this type is very important. In this example, the

presentation of the plan and its adoption moved very fast, possibly due to the heading of the report which read as follows: "Save 2 percent vinegar at U.S.A. bottling operations." A short time later the Canadian organization adopted the same standard specification and the total gallons of vinegar saved per year was increased further.

NET WEIGHTS

The amount of material or product in a jar, bottle or package is stated on the label or wrapper. In many instances the ingredient cost per ounce sufficiently expensive that it is quite possible to give away most of the profit. Controlling net weight efficiently can be a profitable part of business.

Several years ago the smallest unit of weight for net weight work at Heinz was $\frac{1}{16}$ oz. Some of the records indicated a variation as much as $\frac{1}{8}$ oz. or even up to $\frac{1}{4}$ oz. This was at a time when 16 or 24 packages were taken from a filling operation and when weighed samples would be considered satisfactory if that particular lot varied $\frac{1}{8}$ or $\frac{1}{4}$ ounce. A report sheet showing tally marks was compiled in the filling department, and the weights recorded during the day usually occupied three or four columns. Generally speaking, the net weights looked pretty good.

One of the first steps was to reduce the smallest unit of weight from $\frac{1}{16}$ oz. to $\frac{1}{32}$ oz. After a short period, the decimal system was adopted for net weight work and a unit of .05 oz. was the new standard increment of weight.

One might ask at this stage, "How could the change in the increment of weight from $\frac{1}{16}$ oz. to $\frac{1}{32}$ oz. have any influence on the actual performance?" Well, the change in weight as such spread out the net weights, it accentuated the variation in weight considered by some at that time to be satisfactory. It also focused attention on many other possibilities for a more uniform operation. By this time the net weight information was charted. The fact that the average weights looked pretty good but the individual net weights showed too much variation became more apparent to more people.

The relationship between the standard deviation and the high average net weight which had to be maintained in order to prevent underweights was also demonstrated at every opportunity. When one of the strained foods filling lines at one factory improved the variability or the standard deviation so that the revised average net weight could be reduced .05 oz. this was brought to the attention of all factories. In addition, the fact that this particular factory was now saving approximately 300 dozens strained food jars per eight-hour shift



IAN MacPHAIL

per line was of considerable importance.

Back in 1954 the average standard deviation for strained food filling operations was .12 oz. The average weight for a jar labeled 5 oz. was held at approximately 5.25 oz. During the intervening years many improvements were contributed by many departments of the business and for an assortment of varieties the standard deviation has been reduced to .02 oz. This means the average net weight can be maintained at approximately 5.05 oz. Since the adoption of statistical quality control methods, including the related contributions by many individuals and many departments, the strained food filling operations have saved approximately 4 percent of the total pack.

These two examples of the practical gains resulting from the application of statistical quality control may be of some interest to you. Actually we are much more concerned with some of the other aspects which can also become money makers for the business—ideas which could improve the uniformity of our products, also the possibility of preventing the development of trouble spots.

There are many additional phases of statistical quality control which influenced our way of doing things. Our glass acceptance program is one of these. This included a complete list of definitions of defects, the number of shipping cases to be sampled, the number of containers per shipment to be examined, and the acceptance and rejection criteria. When this program was in its early stages it was found that the glass manufacturers and the Heinz people did not always use the same language. One type of defect, according to our wording, did not mean the same thing to

the glass people. In other instances it was found that the various glass manufacturers supplying our needs used different expressions to describe the same type of defect. This sort of thing was rather misleading and a more or less common language developed during meetings with representatives of the glass industry, our purchasing representatives and quality control packaging people. This was a slow and to some extent a tedious process; however, without these preliminary meetings it would not have been possible to complete the successful glass acceptance program which we feel we have in operation today. To use a term from statistical quality control nomenclature, "We are all talking the same language."

Much the same procedure was repeated some time ago with our acceptance program for cans. This included the sampling procedure, a complete list of measurements and defects ordinarily encountered in the double seaming operations as well as the condition of the enamel and the condition of the lithography. It was a real cooperative effort similar to the glass program and both plans helped considerably to systematize the acceptance procedures.

The fact that the control information or measurements are charted and that this procedure can have a considerable bearing on how people react to their work should be given greater publicity. The participation in statistical quality control chart work by the employees responsible for the work performed—also those employees only slightly connected with the operation—can be stimulated greatly. The routine nature of most factory jobs can create a more or less, "so what," attitude, but put a score sheet, or statistical quality control chart in plain sight for everyone to see and it is possible to change the day to day working habits of a vast number of people and, at the same time, produce more uniform products at a more economical cost for the consumer market.

There is another subject related to statistical quality control which we feel is important. It is the fact that one thing leads to another. You can't always see to the end of the road, but when the first turn is reached one gets a better idea of what lies ahead. The experience mentioned earlier regarding a tighter specification for controlling the acidity of vinegar belonged in this category. There was no thought at first to change the specification. The original idea was to improve the appearance of bottled vinegar by controlling the headspace. However, one thing led to another, and the rather fortunate outcome was that the operation saved a very large volume of vinegar annually.

Labeling defects for cans, bottles and jars have also been defined and to some extent this has helped to

keep these operations on a more uniform basis. There must be discussions in order to arrive at definitions for limit samples. If the labeled samples do not show imperfections exceeding the so-called limit sample, then the work is considered good commercial labeling. However when any imperfection exceeds the limit sample, it is no longer an imperfection, it is a defect. There is still a lot of work to be done in this particular field; however the labeling program has had a lot to do with the very satisfactory appearance of Heinz labeled goods on the grocer's shelves.

The two examples of statistical quality control work mentioned earlier started out as investigations into the possibility of doing something to improve certain situations. One thing led to another and the results developed into real money makers for the business. It would be wrong to imply that every investigation will be in this category; however you do not know what you may run into as the work progresses.

I would like to quote one sentence from a recent letter by our executive vice-president, B. D. Graham, which

was addressed to all divisions of the business:

"It is the wise selection, consideration and application of minute trifles that make a company profitable."

What better tool is available at your command than statistical quality control? It will assist in pointing out what some of the so-called "minute trifles" may amount to in cold cash, more uniform quality, or in products which will be more acceptable to the buying public.

A statistical quality control program can help achieve these goals—and you will note I said, "help." It takes more than just the idea that it might be a good program for the business. I would like to quote a remark made recently by Howard K. Smith in his Washington news broadcast. He was speaking of a certain phase of national affairs when he said, "There should be a note of urgency from the top."

That's how I feel about statistical quality control. It may be alright to start off by waiting for a general acceptance of the ideas and methods. However, there comes a time when "there should be a note of urgency from the top."

Radioisotopes and Nuclear Techniques in Food Technology

By John H. Rust, Head,
Section of Nuclear Medicine,
The University of Chicago

As you can imagine, from my academic position, my interests are largely in the sphere of the toxicity of chemical additives in food. Most of what I have to say will be directed toward problems of that nature or technological problems associated with chemical toxicity. If I did not set such bounds I might never complete my presentation. It is, fortunately for me, in these broad areas that isotopes and nuclear techniques will be effectively used.

Before we consider isotopes and nuclear techniques at all it is most important that I call to your attention a special overwhelming matter which at first may seem to be out of context. *There must be initiated, without delay, a program in the departments of food technology of our educational institutions for the advanced or graduate training of food toxicologists.* There is no place where men can get such graduate training today. Medical and veterinary schools are giving graduate training in pharmacology and toxicology but their students do not number enough even to satisfy the sizable needs of professional schools and the pharmaceutical industry. These schools cannot be considered as a source of trained people for food toxicology. An essential attribute of the food toxicologist is familiarity with, and orientation toward the food in-

dustry, its special needs and responsibilities. Such an orientation is not developed in medical and veterinary schools. It must stem from the departments of food technology. The late Professor Proctor at Massachusetts Institute of Technology was attempting to get such a program under way at the time of his death. Dr. Goldblith, who is acting in his stead, is also making such an effort. It is not an easy job. They need encouragement. I visualize many places in which the departments of food technology could cooperate with a medical or veterinary school in the development of a graduate program in food toxicology. The program will be most quickly developed where the two disciplines, i.e., medicine (or veterinary medicine) and food technology, are on the same campus. Such a condition is not absolutely necessary. If there is a keen desire and a strong effort this pressing problem clearly will succeed most anywhere.

You must all be aware that there are many serious food toxicology problems ahead. Some of these will undoubtedly be far more critical and economically disturbing than our recent cranberry situation. A few more such episodes will reduce the faith of food consumers in the food industry to a point where they will take more political action. You cannot be assured that it will be a wise or rational action if the people are violently aroused. It is in the interest of the food industry for you, collectively and

individually, to encourage and support substantially *with money*, the development of a graduate educational program for food toxicologists in the various departments of food technology. It is only by preventive actions that you, as a food industry, can remain in command of the situation. In the present situation your preventive action can only be through an aggressive anticipatory program in food toxicology. It is a "hoot straps" operation that I urge upon you which must be undertaken at once.

Now let us consider radioisotopes in food technology. So many glowing words have been said about the hopes and future of isotopes in science and industry. Perhaps there does exist somewhere a technology in which isotopes and nuclear techniques can establish a new and heavenly situation. If it does exist, I for one don't know where it is. My experience has been that as a direct benefit the best we can expect is some alteration and refinement of techniques plus many new headaches. In some cases, namely biochemistry, isotopes have become a substantial tool. The changes in biochemical knowledge and concepts which have recently occurred in agriculture, genetics, and in veterinary medicine are very very substantial. It is likely that you as food processors, not in daily contact with basic biochemistry, are not completely aware of the part this new information has played in your own field. You are likely to be familiar with it in its more proximate manifestation such as the new fungicides, rodenticides, insecticides, soil fumigants, growth regulators, foliar fertilizers and the like. In all of these developments, radioisotopes have played, and will continue to play, a substantial role—one which also contributes greatly in improving the quality of foods. You will also realize that while isotopes have solved many problems they have created many knotty new ones. It is in the evaluation of the potential toxicity of food additives that I believe isotope techniques will have their brightest future. Again I don't believe for a minute that such techniques will in themselves solve all problems but I do believe they will speed up or refine many studies. I must warn you, they may uncover new toxicity problems as well. Any speed-up or refinement of techniques of toxicology assessment is very important. The cost of complex toxicity studies is very high and any reduction in the time for such studies has economic importance to the food processor. You must be willing to accept the risk of the new problem that may be uncovered.

There are barriers to the use of tracer techniques in food toxicology by the food industry in spite of the considerable encouragement given by state and federal food and drug organizations.

First, there is the need for information and education, since there is a major lack of awareness as to how tracer techniques can help in the solution of particular problems. There is almost a complete lack of understanding of the general principles of the methods—in many cases they are quite simple—by which food products can be labeled and toxicity studies or nutritional evaluations can be conducted in your own simple slightly modified laboratories. This lack of awareness extends to both administrative and technical levels.

Next, there are no training centers for administrative or technical people who are interested in developing not only our understanding, but also the abilities and skills which are needed for the design and evaluation of food or drug study of the nature being described herein.

Last, there is no supply of inexpensive, readily available, custom-labeled compounds for the food industry tracer technologists. It is believed that if these three impediments can be overcome, the use of isotopes in the studying of the potential toxic properties of food additives can be accelerated significantly. It will also be of great help in the development of general technical methods for the food industry—an important secondary gain.

The unique problem areas in which isotopes can be of assistance are numerous. Radioisotopes can make it possible to determine quickly the uniformity of mixing. By their use, one can accurately determine the uniformity of distribution of a chemical additive in food with the added advantage that determinations can be made at levels the compound is used under practical conditions. A simple procedure used with virtually all isotopes is that of direct plating of a slurry of the food and counting by means of windowless or end window Geiger counters. The answers are quickly obtained and translated to practical situations.

Early in the development of a prospective food additive, it is essential to establish its stability with respect to heat, light, moisture, dehydration, oxidation, hydrolysis, bacterial activity, fermentation, hot or cold sterilization, or by irradiation. These are conditions which foods may encounter in processing, storage and household preparation. Many food additives withstand these conditions without alteration. Others may break down or join with other food constituents. Radioisotopes make it possible to determine these facts with accuracy.

Chemicals present in food or in the food package may undergo change or migrate to or from the container during processing and storage. Established radioisotope counting methods coupled with special biochemical or physiological techniques offer a means of studying breakdown or joined prod-



DR. JOHN H. RUST

ucts resulting from these reactions. Based on this information, potential toxicity can be established or the need for other studies may be indicated. The migration of a plasticizer or adhesive into the food when applied as a thin layer to package material could be determined by measuring the loss of radioactivity when samples of such packing material are assayed directly with a radioactivity counter. Actually these techniques have been used.

There is also a special value for tracers in metabolic and direct toxicologic studies. The absorption of the labeled food additive can be readily determined when fed to animals by measuring the radioactivity which appears in the various tissues of the body. If the material is totally unabsorbed all of the radioactivity will be recoverable in the feces. Such information can be of much value in evaluating the potential hazard of a proposed additive. If the labeled compound is absorbed, the levels of radioactivity in the blood, tissues or excreta can be determined. Placental transfer studies may be carried out. There is always concern with what the unborn child is subjected to. Concentrations or retention in such tissues as the brain or the blood-forming tissues would serve to direct attention to a detailed biochemical and pathological investigation of these organs. Direction of attention toward those tissues which concentrate the food additive or its products will reduce the time required to evaluate a toxic potential in spite of the known fact that the site of pharmacological or toxicological action is not necessarily directly related to localization in specific tissues or cells.

The fact that a labeled food additive is metabolized may be readily determined. Study of urine, fecal ex-

tracts and tissue extracts will readily reveal the presence and amount of the end products of a food additive. In addition to determining the number of end products of a food additive, an approximation of the percentages of the various end products can be obtained by radioactive scanning of the chromatograms. Should it be desirable to identify the end products, the use of a labeled food additive has in many cases the distinct advantage of identifying the presence of such metabolites before their presence is known or suspected. Procedures can be devised which will permit their isolation and identification. Investigation of the toxicology of these substances may follow with suitable procedures, including those to determine the cancer producing ability if such is suspected.

In addition to the advantages gained by studying absorption, localization, end products and excretion of a radioactively labeled compound, the above data may be obtained using microscopic quantities. In the case of food additives studies may be carried out at the levels which will be met in actual practice. This is an important advantage over methods requiring excessive doses in order to measure resulting minute quantities of end products.

Alterations in the method of detoxification may also be investigated by repeated measurements of radioactive metabolites as they relate to the amount of the food additives and exposure time to the unlabeled food additive in the diet. This may be done at selected periodic intervals as for example, one week, one month or multiples thereof. Alterations in metabolism with chronic exposure would be of interest in evaluating possible toxic reactions. Perhaps this will give you some idea of the depths to which one may probe with radioisotopes.

I have been asked to make some crystal ball observations. Sometimes when I look into a necromancer's crystal ball, I see things I don't understand myself. This morning I will try to avoid such mishaps and make my guess reasonable and rational.

There are some methods which, in my mind, should be able to play an important part in food toxicology and perhaps in general food technology. The first is the well established method of isotope dilution. Isotope dilution methods provide a means of determining concentrations of food additives in random samples of food obtained at any stage in processing, distribution or household preparation. This is actually a widely used method of chemical analysis which has general applications for food technology and toxicology as well as other purposes. Its requirements are that the food additive in question can be satisfactorily isolated from the food into which it is added and that it be available with a suitable non-migrating radiochemical label. The procedure is simple, reliable and can be carried out routinely

by personnel possessing only a modest amount of chemical training. The ability to assay foods in a central laboratory for the concentration of a food additive which the processor has introduced provides a powerful tool for quality and legal control. The method is further applicable to human excreta and tissues in cases of suspected toxicity in man.

If a chemical in labeled form or a radioactive element can be incorporated into a sample to be analyzed, then its total quantity can be determined without quantitative separation. Using this method it is necessary only to isolate sufficiently pure material to allow radioactive and chemical assays of desired precision. One may use recognized methods of chemical assay as well as those known to give poor or even uncertain recoveries. Isotope dilution techniques are particularly useful where with high purity one sacrifices the chemical yield. The other requirement is that the substance undergoing assay be available in radiochemically pure form. Aminotriazol would have been an excellent candidate for this method. The method of reverse isotope dilution may be carried out by adding a quantity of unlabeled substance to an analytical sample containing the same substance radioactively labeled. This has application in studies where a mixture of labeled substances are present and where one can be isolated in highly pure form.

Another attractive method is that of activation analysis with strange isotopes. It has been suggested, as an example, that calcium -48 be added to foodstuffs as a salt or as an ion. It is not radioactive and it does not occur to any extent in natural calcium. By placing it in a beam of slow neutrons derived from a small neutron source, the calcium -48 changes to calcium -49, a radioactive form. It sends off a characteristic signal which can be interpreted as to quantity. There have been several suggestions for using such a system

in a flowing strain without danger to the foodstuff and the possibilities in other food chemistry problems is substantial.

To my mind, the most promising new technique in food toxicology and, in particular, with the cancer inducing potential food additives owes its value to the fact that it can be used with man as the subject. There have been many discussions about the confidence with which one can accept animal experimental data in man—this is called extrapolation after the term used by the mathematicians. Much hinges upon the supposed biochemical similarity of man and the commonly used laboratory test animals. This is probably an over simplification and there actually is a biochemical uniqueness of all animals. One example of this uniqueness is that radioactive substances, which in their stable counterparts are toxic or cancer-producing in test animals, can be fed in minute, unharmed quantities to man. If metabolic utilization is the same in both man and the susceptible test animals, the likelihood of harm is measurably increased. If, however, there is a substantial difference in metabolism then there is a good chance that the cancer-producing or toxic substance does not act in the same manner in man as it does in animals. Further studies with end products and fragments of the toxic or cancer-forming substances have a good chance of establishing their safety. There is a reasonable scientific basis for this concept. Dr. H. P. Morris of the National Institute of Health has found, for example, that N-2-fluorenylacetylamide causes a generalized cancer when fed to rats but in guinea pigs it is without any deleterious effect. He associates this difference with the different manner by which two animal species break down the cancer forming substances. In other words the animals have a biochemical uniqueness that protects one but not the other. A study of glucose metabolism in rats and man was done by

Dr. George V. LeRoy at the University of Chicago. He found that rats and men used glucose in an entirely different way. This provides a further example of biochemical uniqueness. Rather interesting was that two women, in whom he found a glucose utilization pattern like that of the rat, were sensitive to certain antimalarial drugs, and a departure from biochemical uniqueness subjected them to a new hazard—a man-made one.

I was very pleased to find, on a visit I made a year ago to the General Foods Research Laboratory under Dr. Murer's direction, that they were doing some fundamental studies that involved this concept. I believe that this new method of approach may make our extrapolation from animal data to a predicted hazard for man much less tenuous both for toxic and cancer-producing food additives. This will be a substantial contribution of isotopes.

I want to call your attention to the work that your own N.C.A. Berkeley Laboratory is doing on the West Coast. This work, which is being supported by the Atomic Energy Commission, has to do with residues remaining on vegetables after cleansing with detergents before canning. This undoubtedly will be extended to include certain agricultural spray residue problems if successful. There is every reason to believe it will be.

Perhaps I've covered this morning some points which were new to you. Perhaps I may have stimulated your interest in a new and needed field of food toxicology. If I have, I have been amply rewarded. The great reward, however, awaits those in the food canning industry who solve the pressing need for better trained personnel who can use the best tools now at their command. Then and only then will isotopes and nuclear techniques come into the role that they can play so spectacularly. We will be rewarded by better foods for more people. That should always be our aim. I thank you.

Special Convention Publicity

The Information Division operated the official N.C.A. Press Room at the headquarters hotel during the Convention, where copies of speeches, press releases, and special statements were issued daily to media representatives covering the Convention. The Division also directed the handling of press photos of various Convention events.

One of these was a picture of President Sorensen receiving the congratulations of the famous evangelist, Billy Graham, on the 150th birthday of

canning. Dr. Graham was just concluding a session of the Christian Layman's Institute as the N.C.A. Convention got under way.

The N.C.A. Press Room staff also cooperated with representatives of the Florida Citrus Commission and Florida Canners Association on publicity for the Canners Day at the Florida Citrus Exposition at Winter Haven, preparing a press release on President Milan D. Smith's address on that occasion.

The Commission generously loaned the services, as hostesses and greeters, of eight of the girls of the Cypress

Gardens Water Ballet troupe. One of these girls, Florence Cloud, 20, of Bradenton, Fla., was chosen queen of the Exposition and was presented on the Canners Day program at Winter Haven on the day following the program.

Several magazines and newspapers brought out special Convention issues featuring the sesquicentennial of canned foods and the first tin can, in which they were assisted by the Information Division and the public relations counsel for the N.C.A. Consumer and Trade Relations Program, Dudley-Anderson-Yutzy.

STATISTICAL QUALITY CONTROL WORKSHOP

PRESIDING: DR. HOWARD L. STIER, Director, N.C.A.
Division of Statistics

PANELISTS:

WILLIAM F. CORSE, Manager of Quality Control, Chas. G. Summers, Jr., Inc., New Freedom, Pa.

BRUNO A. FILICE, Food Technologist, Filice and Perrelli Canning Company, Richmond, Calif.

IAN MACPHAIL, Manager of Factory Quality Control, H. J. Heinz Company, Pittsburgh

The Statistical Quality Control Workshop on Wednesday afternoon, January 20, was intended as a "how-to-do-it" follow-up to the Tuesday morning session on quality control. Details of the procedure for setting up a statistical quality control program were outlined and illustrated. Problems and pitfalls were also dis-

cussed to a limited extent. The panelists reviewed applications in their respective firms which had proved especially beneficial. Special attention was given to modifications of the standard procedures which had proven effective or to have simplified the use of statistical quality control in the canning operation. Examples of con-

trol chart forms and record forms were described and illustrated.

After the formal presentations questions from the audience were answered.

It was agreed that it would be desirable to have an SQC session on the convention program each year in the future.

Statistical Quality Control for Cannery

**By Dr. H. L. Stier, Director,
Division of Statistics,
National Cannery Association**

During the past ten years an increasing number of industrial manufacturing concerns have effectively used techniques of statistics in controlling their manufacturing operations. The use of scientific sampling and other statistical techniques has proven, in many instances, to be a sharp tool for controlling product quality and for improving general operating efficiency. Its benefits have been most pronounced where the manufacturing operations were relatively inefficient or not in accordance with specifications. The singular success and the expanded use of statistical techniques by industry and business during the past decade provides ample proof of their value and necessity.

Statistical techniques have become almost essential in the performance of many activities of modern business. Many hard-headed businessmen have found that the statistical method, and especially those techniques used in statistical quality control, provides them the basis for more reliable answers to the hour-to-hour problems of management. Wherever statistical quality control techniques have been applied with competence, the results have invariably been greater production and more uniform quality, frequently at lower cost. As the application of SQC techniques has expanded to areas other than production, the list of gains and accomplishments has also become impressive.

As food processing has become more and more a continuous process and less of a batch process, the use of statistical control techniques has increased. A statistical control chart provides a precise, quantitative guide as to how and when a machine or process should be changed. Frequently a food manufacturer finds that the use of "control charts" actually reduces the frequency of adjustment and changes in a machine or process, thus eliminating the "over-control" that caused excessive variability in the product. Thus, quality control of food products has become more and more a science and less an art.

In the food field, the most frequent application of SQC has been in the control of container fill and package weight. The preparation of control charts has pointed up deficiencies and variations in container fill and package weight that the manufacturer never realized existed. The dollar savings and greater efficiencies achieved in container fill and weight control have, in many instances, been very impressive. Greatest increases in efficiency have invariably been obtained where the filling operation was performed by hand. However, even in machine-filling operations, significant gains have been obtained in certain situations.

In addition to their now rather frequent use in manufacturing and packaging operations, these techniques have been used more and more frequently in purchasing and other activities. SQC has proved to be especially valuable in buying practices

when used to inspect incoming shipments of purchased supplies and equipment. By scientifically sampling the incoming shipments and recording the quality level in each shipment, an accurate appraisal can be made of the incoming quality and the extent to which it meets desired specifications.

In practically all food manufacturing, quality control is an ever-present and pervasive activity. It begins with the raw product and continues through the manufacturing process to the labeling and consequent shipment of the product. Appropriate statistical quality control techniques applied to raw materials provides a more firm foundation upon which all of the other quality control procedures can stand.

The proper use of SQC can provide not only improved quality but better quality at lower cost. The competitive advantages of such a situation are obvious. In addition, an improvement in production efficiency is frequently noted. Obviously, in manufacturing operations where efficiency has been developed to a fairly high degree, the gains are not nearly as great.

The most frequently reported benefits in the canning and preserving industry are more uniform container fill and better package weight control. Two other benefits that are mentioned quite frequently are more efficient use of raw materials, fewer production delays, and aid in meeting customer specifications.

The benefits obtained from the use of SQC in the container-fill or package weight-control operation may be summarized as follows:

1. Increases uniformity of fill.
 - a. Reduces frequency of overweight containers.
 - b. Reduces frequency of underweight containers.
2. Cost reduction through product savings.
3. More efficient processing—proper fill is essential to adequate sterilization and proper cook of many processed food products.
4. Better and more uniform quality—this may result indirectly from the use of SQC in container-fill because of the effect on processing.

To obtain the benefits of SQC requires the time of one or several people. The following functions must be performed:

1. Obtain samples from the line as the product is being produced or as incoming shipments are being received.
2. Record the required measurements.
3. Plot sample values on control charts.
4. Calculate the control limits for the process.

In many food manufacturing plants the time required to perform these functions may not be any greater—and sometimes is less—than the number of man-hours currently being spent on similar quality control operations. If, on the other hand, very few measurements are currently being made as a part of the quality control function, then additional manpower may be required with resultant additional costs. Unless the additional costs are more than compensated by economic gain, they should not be performed.

In beginning an SQC program, it is important that the most important factors of production and quality be selected for control. Some companies have become sadly disillusioned by the results obtained through SQC when it has not been thoroughly planned, or when incompetent people have been assigned the responsibility of making the initial trial. As a result, many man-hours are wasted with little or no gain in product quality or production efficiency. It is under such circumstances that some firms which have tried SQC decide that all that is involved is the needless employment of additional people—and the expenditure of additional money—with little or no gain. On the other hand, the successful application of statistical techniques in quality control is a matter of record in many companies. It has truly been, in most instances, a milestone in the improvement of product quality and general operating efficiency.

How can one who wishes to try this technique be relatively certain of success without needless expenditure of considerable money or the hiring of additional people? Here are a few

points which have proven to be important in the initial planning and consideration of SQC by any company, small or large. Prior planning is most important. Adequate thought and planning should always precede the initiation of the program. Important elements in the planning phase include the following five points:

1. *Decide on the purpose or objective which the program or the control charts are to accomplish.* Unless the user has a clear-cut and specific purpose in mind, there will be little basis for judging the effectiveness of the program. The purpose should be stated in simple terms such as: to improve a certain quality characteristic of the product, or to control weight within certain specified limits, etc.

2. *Decide on the characteristic or attribute that is to be measured.* A common pitfall is to initiate a SQC program with too many characteristics to be measured simultaneously. Careful thought should be given to the selection of the major attributes of quality, and not more than two or three measured in the beginning of an SQC program. The care used in the selection of the attribute to be controlled can determine the success or failure of a program. The control of unimportant characteristics of a product accomplishes very little.

3. *Decide how the characteristic selected should be measured.* This involves decision with respect to the unit of measurement, such as weight, volume, inches, etc., as well as the method of measuring and the preci-

FIGURE 1

QUALITY CONTROL RECORD												SHEET No. _____		
PRODUCT NAME _____												DATE _____		
SPEC. LIMITS _____												UNIT OF MEASUREMENT _____		
CHARACTERISTIC _____												RECORDED BY _____		
DATE ON TIME _____												ABULATION		
SAMPLE No.												1	2	3
A														
B														
C														
D														
E														
TOTAL														
AVERAGE, \bar{x}														
RANGE, R														
DATE ON TIME _____												10		
SAMPLE No.												11	12	13
A														
B														
C														
D														
E														
TOTAL														
AVERAGE, \bar{x}														
RANGE, R														
DATE ON TIME _____												20		
SAMPLE No.												21	22	23
A														
B														
C														
D														
E														
TOTAL														
AVERAGE, \bar{x}														
RANGE, R														
DATE ON TIME _____												30		
SAMPLE No.												31	32	33
A														
B														
C														
D														
E														
TOTAL														
AVERAGE, \bar{x}														
RANGE, R														
DATE ON TIME _____												40		
SAMPLE No.												41	42	43
A														
B														
C														
D														
E														
TOTAL														
AVERAGE, \bar{x}														
RANGE, R														
DATE ON TIME _____												50		
SAMPLE No.												51	52	53
A														
B														
C														
D														
E														
TOTAL														
AVERAGE, \bar{x}														
RANGE, R														
DATE ON TIME _____												60		
SAMPLE No.												61	62	63
A														
B														
C														
D														
E														
TOTAL														
AVERAGE, \bar{x}														
RANGE, R														
DATE ON TIME _____												70		
SAMPLE No.												71	72	73
A														
B														
C														
D														
E														
TOTAL														
AVERAGE, \bar{x}														
RANGE, R														
DATE ON TIME _____												80		
SAMPLE No.												81	82	83
A														
B														
C														
D														
E														
TOTAL														
AVERAGE, \bar{x}														
RANGE, R														
DATE ON TIME _____												90		
SAMPLE No.												91	92	93
A														
B														
C														
D														
E														
TOTAL														
AVERAGE, \bar{x}														
RANGE, R														
DATE ON TIME _____												100		
SAMPLE No.												101	102	103
A														
B														
C														
D														
E														
TOTAL														
AVERAGE, \bar{x}														
RANGE, R														
DATE ON TIME _____												110		
SAMPLE No.												111	112	113
A														
B														
C														
D														
E														
TOTAL														
AVERAGE, \bar{x}														
RANGE, R														
DATE ON TIME _____												120		
SAMPLE No.												121	122	123
A														
B														
C														
D														
E														
TOTAL														
AVERAGE, \bar{x}														
RANGE, R														
DATE ON TIME _____												130		
SAMPLE No.												131	132	133
A														
B														
C														
D														
E														
TOTAL														
AVERAGE, \bar{x}														
RANGE, R														
DATE ON TIME _____												140		
SAMPLE No.												141	142	143
A														
B														
C														
D														
E														
TOTAL														
AVERAGE, \bar{x}														
RANGE, R														
DATE ON TIME _____												150		
SAMPLE No.												151	152	153
A														
B														
C														
D														
E														
TOTAL														
AVERAGE, \bar{x}														
RANGE, R														
DATE ON TIME _____												160		
SAMPLE No.												161	162	163
A														
B														
C														
D														
E														
TOTAL														
AVERAGE, \bar{x}														
RANGE, R														
DATE ON TIME _____												170		
SAMPLE No.												171	172	173
A														
B														
C														
D														
E														
TOTAL														
AVERAGE, \bar{x}														
RANGE, R														
DATE ON TIME _____												180		
SAMPLE No.												181	182	183
A														
B														
C														
D														
E														
TOTAL														
AVERAGE, \bar{x}														
RANGE, R														
DATE ON TIME _____												190		
SAMPLE No.												191	192	193
A														
B														
C														
D														
E														
TOTAL														
AVERAGE, \bar{x}														
RANGE, R														
DATE ON TIME _____												200		
SAMPLE No.												201	202	203
A														
B														
C														
D														
E														
TOTAL														
AVERAGE, \bar{x}														
RANGE, R														
DATE ON TIME _____												210		
SAMPLE No.												211	212	213
A														
B														
C														
D														
E														
TOTAL														
AVERAGE, \bar{x}														
RANGE, R														
DATE ON TIME _____												220		
SAMPLE No.												221	222	223
A														
B														
C														
D														
E														
TOTAL														
AVERAGE, \bar{x}														
RANGE, R														
DATE ON TIME _____												230		
SAMPLE No.												231	232	233
A														
B														
C														
D														
E														
TOTAL														
AVERAGE, \bar{x}														
RANGE, R														
DATE ON TIME _____												240		
SAMPLE No.												241	242	243
A														
B														
C														
D														
E														
TOTAL														
AVERAGE, \bar{x}														
RANGE, R														
DATE ON TIME _____												250		
SAMPLE No.												251	252	253
A														
B														
C														
D														
E														
TOTAL														
AVERAGE, \bar{x}														
RANGE, R														
DATE ON TIME _____												260		
SAMPLE No.												261	262	263
A														
B														
C														
D														
E														
TOTAL														
AVERAGE, \bar{x}														
RANGE, R														
DATE ON TIME _____												270		
SAMPLE No.												271	272	273
A														
B														
C														
D														
E														
TOTAL														
AVERAGE, \bar{x}														
RANGE, R														
DATE ON TIME _____												280		
SAMPLE No.												281	282	283
A														
B														
C														
D														
E														
TOTAL														
AVERAGE, \bar{x}														
RANGE, R														
DATE ON TIME _____												290		
SAMPLE No.												291	292	293
A														
B														
C														
D														
E														
TOTAL														
AVERAGE, \bar{x}														
RANGE, R														
DATE ON TIME _____												300		
SAMPLE No.												301	302	303
A														
B														
C														
D														
E														
TOTAL														

sion of measuring. For example, if the objective is to control weight or container fill within a range of $\frac{1}{4}$ oz., then the scale used to obtain the weight should be capable of determining weight within $\frac{1}{10}$ of an ounce or less. Unless the scale used possesses accuracy that is equal to or greater than the desired degree of control, then it will be impossible to attain such control.

4. *Decide on the size and frequency of samples.* Since the use of any statistical procedure requires the assembly of data in an orderly manner, it is important that, before the program is started, thought be given to the size of the sample that is to be taken for measurement and the frequency with which such samples are to be taken. In SQC, each sample usually consists of four or five individual items. It is important that the items in each sample be produced at the same time. Consecutively produced items should be selected. Although four has been considered to be the ideal size, five is a frequently used sample-size because of the ease in calculating averages. The frequency should be based upon production rate and the choice of logical production groupings for sampling. For example, in a batch process it would be important that at least one sample (preferably two or three) of five individual readings be obtained for each batch that is produced. If the operation is a continuous process, then sampling at periodic intervals such as every 30 minutes or one hour is the procedure usually followed.

5. *Prepare forms for recording data.* A specific method of recording the figures obtained from each sample should be determined and the data sheet duplicated before sampling is begun. One possibility for such a form is illustrated by Figure 1. Regardless of the kind of form used, it is important that in addition to individual-item data, some provision be made for the summation of both averages and ranges for groups of samples (25 or 30). Frequently, the form will also contain the factors and formulas used in calculating the control limits. These can be entered on the side or at the bottom of the form where they are handy for reference.

The factors used for computing the control limits on charts of measurements (\bar{X} -R charts) are multipliers or dividers of the average range (\bar{R}) and will vary in accordance with the number of items measured in each sample. These factors for sample sizes varying from 2 to 15 individuals are shown in Table I.

After the five preliminary steps have been taken, then the first attempt at statistical quality control of an operation can begin by the taking of necessary samples and measuring them. The sequence of the remaining steps in SQC are as follows:

TABLE 1
Formulas and Factors for Calculating Control Limits for Charts
for Averages (\bar{X}) and Ranges (R)

Chart for	Central line	Control limits
Averages (\bar{X})	$\bar{\bar{X}}$	$\bar{\bar{X}} \pm A_2 \bar{R}$
Ranges (R)	\bar{R}	$D_3 \bar{R}$ and $D_4 \bar{R}$
Individuals (X)	\bar{X}	$\bar{X} \pm E_2 \bar{R}$

Number of items per sample	Multipliers of \bar{R} for calculating control limits		
	for averages (\bar{X}) using \bar{R}	for ranges (R) lower upper D_3 D_4	for individuals (X) using \bar{R} E_2
2	1.880	0 3.267	2.660
3	1.023	0 2.575	1.772
4	0.729	0 2.282	1.457
5	0.577	0 2.115	1.290
6	0.483	0 2.004	1.184
7	0.419	0.076 1.924	1.109
8	0.373	0.136 1.864	1.054
9	0.337	0.184 1.816	1.010
10	0.308	0.223 1.777	0.975
11	0.285	0.256 1.744	0.946
12	0.266	0.284 1.716	0.921
13	0.249	0.308 1.692	0.899
14	0.235	0.329 1.671	0.881
15	0.223	0.348 1.652	0.864

From A.S.T.M. Manual on Quality Control of Materials, American Society for Testing Materials, Philadelphia, Pa., 1951.

1. Take the number of individual items from the production line corresponding to the sample size decided upon; i.e., five. These five items should be taken simultaneously; i.e., items produced at the same time under the same circumstances.

2. Measure each item and enter the data on the record sheet.

3. Calculate the average (\bar{X}) for each sample.

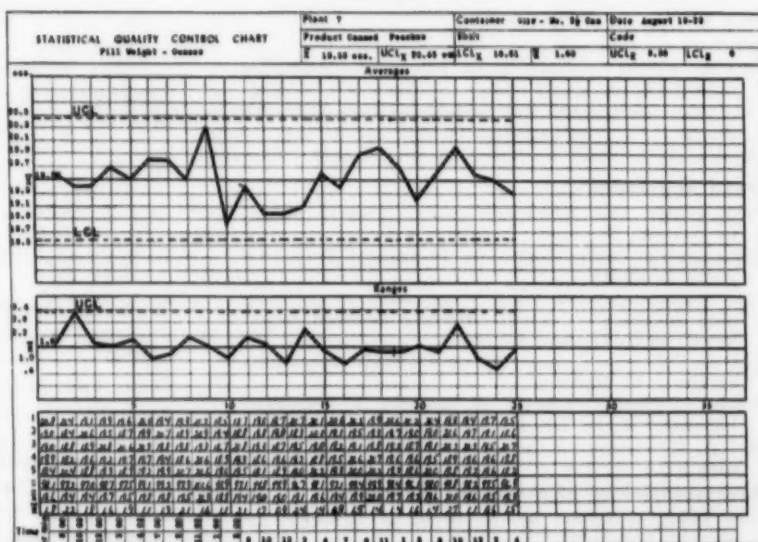
4. Record the Range (R) for each sample. This is the difference between the highest and the lowest reading obtained.

5. After 25 or 30 samples (of four or five items each) are taken, calculate the grand average ($\bar{\bar{X}}$) and the average range (\bar{R}).

6. Calculate the tentative control limits for averages and ranges from the first 25 or 30 samples.

7. Plot the averages for each sample and the upper and lower control limits for the averages and ranges on the control chart form. This step can be omitted and the figures on the data sheet simply compared with the calculated control limits to determine out-of-control points. Such points can

FIGURE 2



be circled with a red pencil so they will stand out.

8. Determine the relationship between control limits and actual values. This is simply a matter of inspecting the data on the data sheet or the plotted points on the control chart to determine which samples fall outside the control limits. Whenever such points occur, it indicates that there is an assignable cause operating which can be corrected and the situation changed so that the variation in the process will be less. When points appear beyond the control limits, the cause should be determined and the control limits recalculated later to determine the limits after the process has been brought in statistical control. When all of the points fall within the control limits, the process is said to be "in statistical control" and the control limits indicate the capability of the process.

9. Take action indicated by the control chart or the data. Unless there is follow-up and corrective action is taken when it is indicated as necessary by the control chart, the whole operation should be discontinued. The

only reason for taking data and plotting the control limits is to provide a basis for decision and action. If this does not follow, then there is no need to record the data.

An example of a control chart form that might be used is shown in Figure 2. Copies of this control chart form are available to N.C.A. members upon request. It is important that in plotting the data on such a control chart form the sequence of the samples be maintained so that when out-of-control points are found, they can be related to a given time shift or other production factor. Such control charts are often prepared on 8½x11 paper on a grid on the back of the data sheet and kept on file in a standard three-ring binder. In other instances, it has been found advantageous to maintain the control chart in the food processing plant near the point where the data are taken. This has the advantage of acquainting production personnel with the status of their process and is an educational medium which, over a period of time, can be very helpful in creating greater in-

terest and in the improvement of efficiency of the operation.

It is important that the use of any type of SQC procedure involve the application of the appropriate procedure for the problem at hand and that the analysis and interpretation of the data be accurate and complete. This requires at least one person who has some background and training in the field of SQC. It is important to realize that SQC is simply a tool which management can use to help it do the job more efficiently. It does not replace experience or judgment. It should be used by people who are intimately familiar with the operation to which it is being applied so that their knowledge and experience can be effectively used in the interpretation of the data and relationships that are found. SQC, or any other statistical technique, cannot be used indiscriminately without knowledge or understanding. Invariably, whenever a statistical method has been applied properly with an understanding of its real advantages and why it works, it has been found to be a very effective and helpful guide to management.

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